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Annual Report of the Executive Secretary*

R. C. McCaughan, D.O.
Chicago

The thirty-eighth annual convention of the American Osteopathic Association affords occasion for self-congratulation upon the part of the profession. In spite of the desperate financial situation of the country, reflected more painfully upon the members of the healing profession than upon the members of any other, professional organizations this year have turned out more work of an effective nature than they were able to accomplish during many of the prosperous years.

It has been a year of unprecedented activity upon the part of your national Association and of continued improvement in the efficiency of both the national and divisional societies.

Throughout this convention you will be provided with a composite picture of organized osteopathy's activities presented by the various chairmen of departments, bureaus, and committees who will report to you either before the general sessions or in the House of Delegates. Let me call to your attention the most interesting piece of reading provided to each individual member of the profession throughout the year; that is, the minutes of the House of Delegates and the Board of Trustees as they shall be published in an early issue of The Journal of the Association.

No reader of those minutes can escape the conclusion that the osteopathic problem is clearly understood and that definite progress is being made in the accomplishment of the objectives which the profession has long since set for itself. During the year, 370 students have graduated from the six approved osteopathic colleges. This is a gain of fifteen students over last year, a gain of 4 per cent. There is every indication that this year's graduating class of seniors is, on the whole, better prepared than its predecessors. The graduation of this class immediately leads us to the necessity of providing for entrance next September a larger and better qualified group of young people. This is a responsibility laid upon each one of us as individuals and as organization members.

The year has been marked by an awakening upon the part of the various divisional societies, an awakening to past organization weaknesses and a realization that the efficiency of the divisional societies must be "stepped up", if local state problems are to be efficiently handled. That awakening has placed, quite properly, a demand upon the national organization for suggestions and coöperation in the way of providing better divisional society machinery, a demand which has been met in part.

More definite plans for rendering uniform series of suggestions, intended to enhance the efficiency of state societies to perform their duties, are under way. Apparently many more small local groups have organized themselves for the purposes of self-education and for the control of local public relations. During the year a new divisional society was chartered in New Hampshire, leaving only the states of Mississippi, Nevada and Wyoming without divisional societies.

We cannot refrain from remarking upon the quickened interest of a larger number of members of the profession in its ethics. An increasing number of complaints of unethical advertising come to your Association officers. It seems possible that the number of unethical advertisers in the profession may have increased on account of the depression. It seems probable that most of the disturbance comes about because of a realization on the part of osteopathic organizations that such unethical advertising is detrimental to the whole profession. Your Association's Bureau of Censorship, ably headed by P. W. Gibson, has been extraordinarily effective in persuading the various offenders of the errors of their way. Upon that Bureau is thrown the burden of much of this censorship which ought to be undertaken by a similar

*Delivered before the Thirty-eighth A.O.A. Convention, Wichita, Kans., 1934.

bureau in every divisional society. While the task of such a bureau is an onerous one, its usefulness is apparent; and the rising tide of protests is a healthy indication in the various divisional societies.

The Association owes to an increasing number of state officers and committeemen, its thanks for closer coöperation between divisional and national associations, a coöperation which has sometimes swamped the facilities of the national Association in order to keep up with its end of the bargain.

Each officer and member of the official family of the Association has given freely and voluminously of his services during the year. Your President, Dr. Perrin T. Wilson, has spoken in seventeen states, generally speaking several times each day at each appearance. He has undertaken a speaking program of almost unequaled volume with his unusual ability to express and to teach to others the results of his experience as a technician. He has been in demand upon the programs of many state societies at which he could not appear. In addition, he has undertaken his executive duties of his office with characteristic vigor. Your immediate past president, V. W. Purdy, has continued to be as available as last year for every assistance asked of him, and your first vice president, George J. Conley, has appeared upon programs in widely separated parts of the country throughout the year.

John E. Rogers, chairman of the Department of Professional Affairs, chairman of the Bureau of Professional Education, and your Inspector of Colleges, has devoted more time to the affairs of the Department than in any previous year. The volume of work in the Department increases yearly. Each of the colleges and each of the hospitals attached thereto have received the usual annual inspection and reports thereon are on file at the Central office.

E. A. Ward has again for this year headed the Department of Public Affairs, adding to his years of experience at this work an enthusiasm and an executive ability of an unusual variety.

These five, with the addition of your Secretary, make up the Executive Committee of the Association's Board of Trustees which is charged with the duty, in the interim between annual sessions, of making decisions upon all matters for which authority is not already delegated to some of your employed force.

The membership of the Association during the year has remained in *status quo*. The Directory shows 3,604 members as of January 1, 1934. The report June 1, 1934, shows a membership of 3,701, a gain over last year of 26 members, or a little less than one per cent. Sixty-one per cent of the A.O.A. members as indicated in the 1934 Directory were starred as members of their state association. Nineteen per cent of the non-A.O.A. members who were carried this year in the Directory were members of their state association.

In twenty-five states there were more members of divisional societies than there were of the American Osteopathic Association.

We cannot ignore the fact that non-membership, while it is in part due to the stress of financial difficulties of the times, is more frequently due to a lack of appreciation upon the part of the individual non-member of what organization needs to do for him and what it actually does accomplish in his behalf. That indifference of ignorance can be dispelled only by the studied and unceasing campaign upon the part of every member to call to the attention of his non-member neighbors what osteopathic organization needs to do and what it does do. Only by dispelling that ignorance will we overcome the indifference causative of non-membership.

The 1934 Directory contained the names of the members and of the non-members of the national Association and indicated as well membership in state associations. There has been about an equal meed of approbation and criticism of the publication of the names of the non-members. To offset the added expense and the criticism of those who felt that because of the value in the way of referred work to members of listing in the Directory, non-members should not have been listed, there was the opportunity to correct many of the incorrect addresses, a labor which has cast a tremendous amount of work upon the personnel department but which has cleared up lists until they are now without question the best available list of members of the osteopathic profession, actually practicing osteopathy.

The Association's cash income for the year, approximately $111,000, is less than that of last year by about $5,475. The expenses of operation were reduced by $11,339.61.

The Association's Student Loan Fund established in 1931, making its first loans in 1932, has enabled 21 seniors in the top one-quarter of their classes in osteopathic colleges to graduate. Four thousand two hundred fifty-five dollars have been loaned to these seniors. The profession has done well by this small fund which bids fair to grow steadily and thus enable a larger number of students to take advantage of this opportunity to receive an osteopathic education.

During the 1933 session of A Century of Progress, the profession profited materially by its exhibit in the Missouri section of the Hall of States. Through A. G. Hildreth, entry to the Missouri exhibit was obtained and the Committee under Dr. James Fraser prepared and installed a creditable exhibit which showed through the last three and one-half months of the 1933 Fair and which was opened again in 1934 with the opening of the exposition. Each college of osteopathy and the Still-Hildreth Sanitarium is pictured. Cards requesting information about osteopathic schools and about osteopathy as a school of practice are available. Osteopathic literature is sent to all inquirers. Student recruiting lists are made up from the inquirers about osteopathic education. By contribution, about $1,600 was collected from members of the profession. It was supplemented by approximately equal amounts from Still-Hildreth Sanitarium and Kirksville College of Osteopathy and Surgery and the fund donated to the Missouri Commission for A Century of Progress. All observers agree that the

exhibit is very important to osteopathy and very useful.

Among the outstanding activities in the profession throughout the year have been those of the Associated Colleges, that group of college representatives which has been growing in efficiency, exchanging ideas, trying out new methods of education, and building a more solid educational foundation for osteopathy. They have just adjourned their three-day preconvention sessions in the new building of the Kansas City College of Osteopathy and Surgery at Kansas City, Mo., and will hold further sessions here. Among the subjects discussed and decided upon at Kansas City were the following: Results before state boards of examiners, scholarship and pre-osteopathic education, internships for 1934 graduates, improvement in the teaching of technic and in clinical teaching, European medical graduates in osteopathic colleges, uniformity of curriculum, and many others.

These important topics indicate the work that this group undertakes, a group to whom, after all, is entrusted the perpetuation of osteopathy, and a group that has everything to say about what the osteopathy of the future shall be. So long as osteopathy survives, only one influence will ever determine its content and its trend of thought and that influence originates in osteopathic colleges.

The chairman of the Bureau of Hospitals of the Association, E. O. Holden of Philadelphia, has contributed for publication during the year a set of standards for modern osteopathic hospitals in which osteopathic interns are taught. The work has been admirably done and sets up a standard for the consideration of the Board of Trustees of the Association. In several states internship in osteopathic hospitals is a necessary basis for certain types of licensure and your Association is expected to set up the standards for determining the sufficiency of osteopathic hospitals for giving the kind of intern training which ought to be satisfactory to examining boards.

Consequently, representatives of osteopathic hospitals have been invited to be present at a meeting during this session of the convention in which an organization of osteopathic hospitals will be brought about in order to provide for an interchange of ideas among those in attendance and an agreement on their part, in conjunction with the Association's representative. A standard for osteopathic hospitals can be set up and formal approval of hospitals for intern teaching can be transmitted to state boards of examiners. The studies which these hospitals will undertake among themselves bid fair to make of this association of hospitals the same kind of efficient organization as the Associated Colleges of Osteopathy. Osteopathic education in all its phases is beginning to develop a class consciousness and a consciousness of obligation which can do nothing less than elevate standards.

During the year, one company which sold a considerable amount of professional liability insurance to the members of the profession has ceased to exist. Another company which sold a large amount of such coverage has refused to accept as risks osteopathic physicians, who do any surgery of whatever nature. Other efficient coverage is available. No prudent member of the profession will be without proper coverage in this regard, particularly in view of the recent increase in the number of suits, mostly of an unwarranted nature, brought against physicians of all schools of practice.

During this week the official body of this Association, together with a regularly appointed representative of every divisional society, will attend the convocation of education, at which time a picture will be presented of the present educational status of osteopathy in its approved colleges, a picture which it is expected will be carried back by the various attendants to every divisional society's annual session in the succeeding year. Much of the misunderstanding between the profession and its educational institutions is misunderstanding and misinformation only, and not actual difference of opinion, and such a proposed convocation should promulgate information necessary to bring about a closer concert of action between the various osteopathic colleges and their alumni.

In at least two of our colleges throughout the forthcoming year, formal courses of postgraduate instruction will be offered, courses in which the laboratory and clinical facilities of each school will be placed at the disposal of the postgraduate group in regular courses of instruction.

While the work of the Legislative Council has not, during this year, been quite so voluminous as during last year, desperate fights in Ontario, New York and New Jersey have occasioned grave concern in the profession. While in none of these three localities has the profession been able to make a worthwhile advance in its legal standing, insofar as such advance is recorded upon the statute books, all of them have made definite advance which should prove valuable in future campaigns.

Particularly regrettable was the failure of the Governor of New York to sign the bill somewhat liberalizing the rights of practice of osteopathic physicians and surgeons in the state of New York after the legislature of that state had passed the bill by a very comfortable majority. In each of these legislative fights your Association has been of material assistance through the various means at its disposal.

Again this year the American Association of Osteopathic Examining Boards has undertaken the collection of statistics with respect to each individual osteopathic candidate before examining boards in every state in the union. This year that association has been more successful than ever before in receiving the coöperation of the representatives of various boards of examiners.

The statistics offered for consideration, carefully compiled as they have been, offer a mine of information for those in authority in osteopathic colleges and for the members of the various state boards of examiners. Close study of the figures, and the various inferences to be drawn therefrom, afford a wealth of information which the profession cannot ignore. This association of boards of examiners will meet during this week and thrash

out many of their problems in common. Thus an organization which has existed for a long time will come this year to a fuller efficiency, an efficiency made possible by the persistent effort of the officers of the organization and the coöperation of a larger number of those who make up the examining bodies in the various states.

Reports indicate that efforts at student recruiting have been more generally undertaken by state and local groups throughout this year than previously. The distribution of "Dan's Decision," the osteopathic vocational film, and distribution of "Osteopathy as a Career," from the Office of Education at Washington have gone on apace.

An even more pretentious piece of literature for distribution to inquiring students should be undertaken by the Association and the distribution of such informatory printed matter should be undertaken by state and local societies and the individual members of the profession who are in a position to place it where it will do the most good.

The rapid increase in centralization of authority at Washington has added materially to the burdens of your Public Relations Committee throughout the year. This committee will report to your House of Delegates and its efficient chairman, Dr. Chester D. Swope, appears on your program later in the week. However, three major efforts of that committee should receive attention here. Immediately following the Milwaukee convention, it became desirable to formulate and present to the National Recovery Administration a code for the osteopathic practitioner and his institutions. In view of the possibility of a code for the healing arts being imposed, the osteopathic profession as a minority group were likely to find themselves under the dominance of a majority school of practice. It was deemed desirable to formulate a code for the profession, thus indicating a willingness to coöperate and affording us the best possible chance to police our own profession rather than to have that supervision assumed by the politically dominant school of practice.

Accordingly, your Executive Committee met in Chicago with the representatives of the Public Relations Committee and such a tentative code was formulated. Thereafter consent agreement was obtained from approximately 2,500 members of the profession. The code was later slightly amended and presented to the National Recovery Administration where, we are reliably informed, it is still pending. A tremendous amount of work on the part of your committee and of your Central office force was necessary in order to take this insurance step. It may prove of no value, but we have yet to see the outcome of the matter.

At approximately the same time, the Federal Emergency Relief Administration made quite evident its intention to distribute federal funds for the care of the indigent, such care to include medical relief. Under the Federal Emergency Relief Administration, rules were promulgated setting up rather loosely organized groups in various states for the distribution of this relief. Rules were promulgated governing the medical relief to be administered and those rules, at the instigation of your Public Relations Committee, were interpreted to include osteopathic physicians in the medical personnel competent to render services for which the United States Government would pay.

Immediately that information was transmitted in detail to every divisional society. Many state societies at once investigated the situation and made every effort to consolidate osteopathy's position with state administrations. In many instances they were successful, although in every instance they met some opposition from local tax-distributing authorities, generally instigated by county and state medical societies. A very distinct lethargy on the part of some divisional societies delayed or prevented entirely any action in the matter.

That service of distribution of medical care is still extant. We shall probably never see the end of it. Every divisional society should prosecute its claims in this regard to the utmost in order to establish both the right of the indigent to select his own osteopathic physician if he desires and the position of the profession. If this form of state medicine is a necessity, there is no reason why the indigent should be denied the services of a capable osteopathic physician of his own selection.

Along with the medical relief distribution by the Federal Emergency Relief Administration was the medical relief to the government employees under the Civil Works Administration.* During that regime, the old rule of the United States Compensation Commission, so frequently called to the attention of the profession in days gone by, was evoked. This medical care became contract practice under the United States Compensation Commission, from which osteopathic physicians were to all intents and purposes excluded. The most vigorous effort of your Public Relations Committee, aided by a few individual osteopathic physicians throughout the country, have so far been unable to break down the rule of the United States Compensation Commission. The effort is a continuing one, unsuccessful only because the profession has refused to see the importance of righting this injustice.

During the year, a special committee appointed by your President, consisting of Dr. A. E. Allen, chairman, and Doctors G. F. Conley, A. D. Becker, C. D. Swope and your Secretary has been steadily at work to provide the framework for the organization of a national board of osteopathic examiners. Such a group of examiners can and will undoubtedly have in the future a widespread influence on the teaching of osteopathy and its recognition as a school of practice. This committee's report will be presented to your Board of Trustees and House of Delegates at this session and bids fair to be one of the outstanding matters for consideration by your official bodies. The committee has taken advice from many sources and its report indicates thought and care and the expression of mature judgement.

On the last day of your session at Milwaukee a year ago a Distinguished Service Certificate was

*Apparently the Emergency Works Administration in conjunction with the Public Works Administration is now (October 15) governing its distribution of medical care by the rules originally promulgated for the Federal Emergency Relief Administration, first published in this JOURNAL for October, 1933, and frequently quoted and commented on since.—Editor.

awarded to Dr. D. L. Clark of Denver for "Distinguished Service in Organization and Legislation."

The Osteopathic Women's National Association has spent a busy year at its various activities. Your Association has willingly and gladly cooperated in its efforts, devoting in the publications twenty pages in THE FORUM OF OSTEOPATHY to the compilation of its efficient editor, Dr. Anna Mary Mills. The O.W.N.A. was able to place in the exhibit of the Federation of Women's Clubs at A Century of Progress a copy of a volume of material with respect to the Osteopathic Women's National Association as presented in THE FORUM OF OSTEOPATHY. The volume received a great deal of attention in that exhibit. Your Association has assigned to the O.W.N.A. separate quarters here in THE FORUM for its various sessions throughout the week over which its able president, Helen Marshall Giddings of Cleveland, will preside.

One of the interests of the profession frequently manifested is the interest in nation-wide publicity for osteopathy. Realizing so definitely what osteopathy has to offer to the people of this country, every osteopathic physician desires and expects the national Association to promote steadily an efficient campaign for osteopathic publicity. Careful estimate indicates that osteopathic publicity in newspapers has been at a high tide throughout the past year. Efforts of your workers in the Central office, supplemented by the enthusiastic coöperation of certain local publicity committees, has made this possible. It may be truthfully said that about the only limit to publicity along osteopathic lines is that of the machinery with which to produce necessary publicity material, stories for newspapers, magazines, radio, public speeches, moving pictures, and so forth. By whatever means the profession can increase the income of its national and divisional societies, by those same methods it can increase the publicity which osteopathy, justly deserving, shall receive.

Throughout the year the Central office has received an increasing number or requests for cooperation with respect to publicity at state conventions and with respect to speaking tours or clinics held in various sections of the country. The divisional societies have been duly grateful in their expression to your officers. Definite tests throughout this year have proved the possibilities of publicity if the problem can be attacked by a force large enough to do the work adequately. The publicity attendant on trips taken by your President, publicity engineered through the Central office for a speaking tour by A. G. Hildreth and the publicity so obtained for speaking trips of your Secretary indicates that a properly run machine can do what needs to be done in the way of obtaining proper publicity for the profession. Only inadequate facilities and personnel have prevented greater increase.

The public relations committee of the New York Osteopathic Society and the like efforts of the employed force at the Philadelphia College of Osteopathy have reacted favorably locally and spread their influence well outside their own restricted territory, all for the good of the profession.

Your employed force of eighteen persons at the Central office continues to the limit of its ability in its efforts to satisfy the demand made upon your Association by the members and the divisional societies of the Associations who are rapidly discovering that many of their wants may be met by the Organization which they have set up to undertake such problems. As that reputation spreads, the requests for assistance have mounted rapidly and have necessitated, quite properly, widening of the type of activities undertaken by your Central office.

To you who attend this convention, particularly those of you who shall labor in the House of Delegates and Board of Trustees, many of the ramifications and problems of the profession are understandable. Upon your shoulders, as well as upon mine, falls the burden of convincing your non-participating neighbors of the necessity for their help.

Marcus Aurelius said, translating freely, "We are made for coöperation, like feet, like hands, like eyelids, like the rows of the upper and lower teeth. To act against one another then is contrary to nature and it is acting against one another to be vexed and turn away."

Steinmetz is quoted as having said "Coöperation is not a sentiment—it is an economic necessity."

Later in the week I am privileged to discuss with you all that economic necessity.

But you and I will not deny a fierce pride in our profession, a pride which leads us as a group to indefatigable study and to a higher standard of perfection of service rendered. To that end we shall bend our unceasing effort, not too anxious for praise, nor too jealous for recognition, but determined that the truth which lies within our ken be neither stifled nor starved.

Infections of the Hand*

V. R. MIKAN, D.O.
Detroit, Mich.

When confronted with a serious hand infection, the first thought should be: "Is this a case of *(a)* tenosynovitis, *(b)* fascial space infection or *(c)* lymphangitis?" Each is a clinical entity capable of precise diagnosis. Because fascial space infection is usually the result of tenosynovitis, it is not likely to occur within the first forty-eight hours. The big problem to solve is the differential diagnosis between tenosynovitis and lymphangitis. Tenosynovitis calls for immediate operation, while in primary lymphangitis expectancy should be the unwavering rule, at least in its earlier stages.

There are seven fascial spaces where pus can accumulate: (1) Pulp space, (2) Thenar space, (3) Middle palmar space, (4) Dorsal subaponeurotic space, (5) Lumbrical spaces (four in number), (6) Dorsal subcutaneous space, and (7) Hypothenar space.

The Pulp Space.—The pulp of the fingers and thumbs is subjected to more pricks, and therefore

*Delivered before the Detroit Osteopathic Hospital Staff meeting, June 6, 1934.

more infections, than any other part of the body. Nature has provided in this situation an effective closed fascial compartment. This compartment extends from the tip of the digit to the level of the epiphysial line of the terminal phalanx,—that is, a quarter of an inch distal to the last interphalangeal crease.

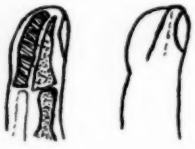
In infections limited to the pulp, to allow the incision to extend in a proximal direction any farther than half an inch from the terminal flexor crease, is to break a surgical rule by permitting the knife to enter forbidden ground.

If tenderness is not marked over the pulp of the finger, it is permissible to wait for localization of pus to the aforementioned compartment, but not for fluctuation. Hot saline baths and fomentations should be given. When the pulp feels indurated, then is the time to open.

face, adductor transversus pollicis; on the ulnar side, a septum of strong fascia attached to the middle metacarpal bone. This septum separates the thenar from the middle palmar space.

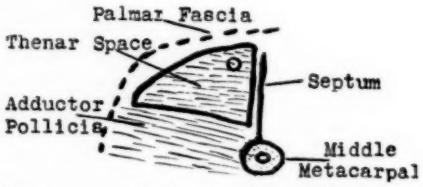
The thenar space may become infected directly from a wound, but much more frequently it is involved by the bursting of the tendon sheath of the index finger. Exceptionally, it is involved in the same way from the flexor tendon sheath of the middle finger, and still more rarely from the flexor longus pollicis tendon sheath. Drainage of an abscess of the thenar space may be accomplished by an incision in the dorsum of the hand as shown in Figure C. The cut should be made on the radial side of the metacarpal of the index finger. A hemostat is introduced into the incision, passing its nose across the palmar aspect of the bone when the thenar space will be entered. The

A—The thenar space.

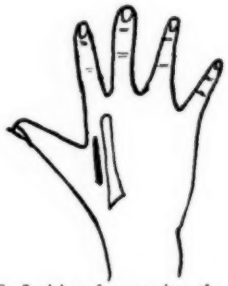


1A—Terminal fascial compartment.

2A—U incision.



B—Cross section of thenar space.



C—Incision for opening thenar space.

A tourniquet* in the shape of a rubber catheter should be placed around the base of the finger. The form of the incision depends upon the patient's work. In most cases, the *U*-incision as shown in diagram 2A is a good one. If the patient is a pianist or depends very much on his tactile sensibility, two lateral incisions are recommended. No *drainage material is used.* Fomentations are applied for forty-eight hours; then vaseline dressings are substituted. In late cases, as soon as the incision is made, the diaphysis of the terminal phalanx literally falls out of a pocket of pus. In earlier cases, the onset of osteomyelitis may be prevented, but this is a rare event. Usually some days or weeks later the diaphysis is picked out of a wound as a sequestrum. In the interval between the incision and the healing of the wound, or the removal of a loose sequestrum, a weekly roentgenograph should be made.

The Thenar Space.—Infections of the thenar fascial space produce much swelling. There is ballooning of the thenar eminence. The thumb metacarpal bone becomes pushed away from the rest of the hand. Flexion of the distal phalanx may be considerable in this condition, but it lacks resistance to extension, which is well defined in suppurative tenosynovitis of the flexor longus pollicis.

The boundaries of the thenar space are as follows: On the palmar aspect, the palmar fascia, which in this situation is thin and elastic; on the dorsal sur-

*A tourniquet of narrow calibre should never be used in operations on the fingers. It is hazardous because the local tissue injury is more centralized.

hemostat should not be thrust farther than the radial side of the middle metacarpal, or the middle palmar space will be endangered. This technic gives perfect drainage, and no tube or other drainage material is necessary. It is of course essential to treat a suppurative tenosynovitis of the index finger if it is present at the same time.

The Middle Palmar Space.—Infections of the middle palmar space give rise to those enormous hands which may be likened to a whale's flapper. Obliteration of the concavity of the palm, with slight bulging thereof is almost pathognomonic of the condition. There is no point of maximal tenderness in middle space infections.

The boundaries of the middle palmar space are: On the dorsal aspect, fibrous tissues, separating it from the interosseous muscles; on the palmar aspect, fascia, separating it from the flexor tendons of the fingers and their lumbrical muscles; on the radial aspect, the fascial septum is attached to the middle metacarpal bone which separates it from the thenar space. The middle palmar space has three diverticula, which are the lumbrical canals of the middle, ring and little fingers. It is overlapped on the ulnar side by the ulnar bursa and therefore should never be incised directly from the palm, otherwise the ulnar bursa may become infected—a very grave matter.

The middle palmar space may become infected from rupture of the tendon sheath of the middle, ring or little finger. It can also be infected directly by penetrating wounds of the palm or from osteomye-

litis of the middle and ring metacarpal bones. Very rarely infection of this space occurs as an extension from the thenar space, by a bursting of the septum which divides them.

Direct attack is not recommended for reasons given above. Efficient drainage of the middle palmar space may be secured by way of a lumbrical canal. This is effected by opening up the web between the ring and middle fingers or the ring and little fingers. The fingers are spread. The incision begins on the dorsum and passes over the web on to the palm but never beyond the distal flexion crease. The incision is deepened. Pressure is extended over the middle palmar space. If pus wells up, a grooved director is inserted along the lumbrical canal. The incision is extended almost to the crease, a closed hemostat is now inserted under the flexor tendon and opened. No drainage is necessary.

The treatment of combined middle palmar and thenar space involvement is as follows: The middle palmar space is drained by the method just indicated. The forceps are passed under the flexor tendons and made to pierce the fascial septum attached to the middle metacarpal bone. The beak of the hemostat is passed on superficially to the adductor transversus and is made to appear in the dorsum between the metacarpals of the thumb and index finger. A counter incision is made here, and a narrow piece of rubber tissue is drawn through, to be removed in twenty-four hours.

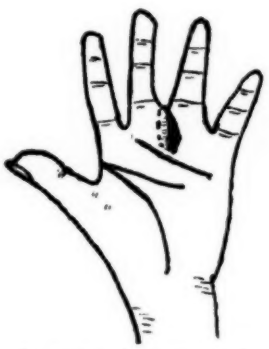
The Dorsal Subaponeurotic Space.—To establish drainage in this space, dorsal incisions are made in the intermetacarpal spaces. Usually two suffice. A combined infection of the middle palmar and dorsal subaponeurotic spaces is a sequel to an infected compound fracture of the metacarpal bone or to osteomyelitis thereof. It is best drained by a through and through incision from the palm to the dorsum. The point chosen for the incision lies on the middle palmar flexion crease, between the ring and middle fingers, thus avoiding the ulnar bursa and the thenar space. The palmar fascia is incised and a hemostat is passed through. Rubber tissue drains are inserted for twenty-four hours.

Lumbrical Spaces.—The lumbrical muscles, or rather the canals in which they lie, play a large part in serious infections of the hand. They act as conducting channels for pus to travel from the fingers to the palm. They arise from the flexor profundus digitorum tendons, the outer two by one head, the inner two by two heads. Their tendons pass around the radial side of the corresponding digit to reach the expansion of the extensor communis digitorum into which they are inserted. The lumbrical canals often convey pus to the dorsal part of the web between two fingers.

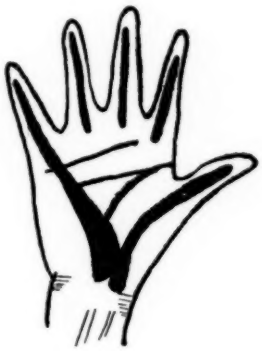
When there is infection of the lumbrical spaces, they may be exposed and drained by splitting the interdigital webs.

The Dorsal Subcutaneous Space, when infected, allows pus to escape all over the hand. Pus is rare on the back of the hand. The space should be incised when indurated.

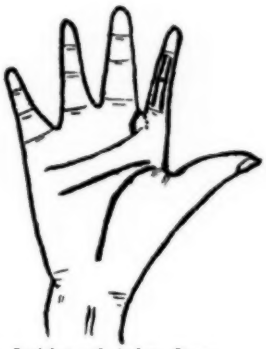
The Hypothenar Space, unlike the thenar space, is strictly localized. It does not communicate with any other space or tendon sheath and is of small surgical importance.



D—Incision for opening middle palmar space.



E—Sheaths of tendons.



F—Incision of index finger and drainage of lumbrical canal.

G—Incision of middle finger and drainage of lumbrical canal.

SUPPURATIVE TENOSYNOVITIS

Suppurative tenosynovitis is a condition of great urgency. Effective drainage must be instituted at the earliest possible moment. To delay is to sacrifice a finger, a hand, or a life.

Gas and oxygen anesthesia is ideal for urgent operations on the hand. Failing this, any ordinary anesthetic may be used. The arm is raised for three or four minutes and a tourniquet applied above the wrist. Then the hand is placed upon a small table, and the surgeon sits down to operate. Small incisions tend to become closed by edematous tissue. It is advisable not to make the incision in the middle line of the sheath but to one side of it. The middle line is avoided in order to lessen the tendency of the tendon to prolapse. If there is preoperative evidence of involvement of a lumbrical canal, this lies over the proximal phalanx. In cases of some standing, as soon as the tendon sheath is exposed, pus can be seen distending the theca, but in early streptococcal infections, the tendon can be seen shining through an almost transparent sheath, and one feels reluctant to proceed. If a clinical diagnosis of tendon sheath infection has been made, it is essential to continue. A second incision is made over the second phalanx. After cleaning the

hand, the whole sheath is examined. If there is much edema, incisions one and two are joined. In cases of doubt, the tendon sheath should be split within the limits of the incision. When frank pus is present, particular attention should be paid to the condition of the tendon. If it has a dull yellow appearance, it will surely slough and much time can be saved by excising it. If it is merely incised, the infected upper end will retract and carry infection into the palm. To prevent this calamity, the cut ends of the tendons are fixed to the periosteum of the proximal phalanx by a catgut stitch which will hold them until protective adhesions have formed.

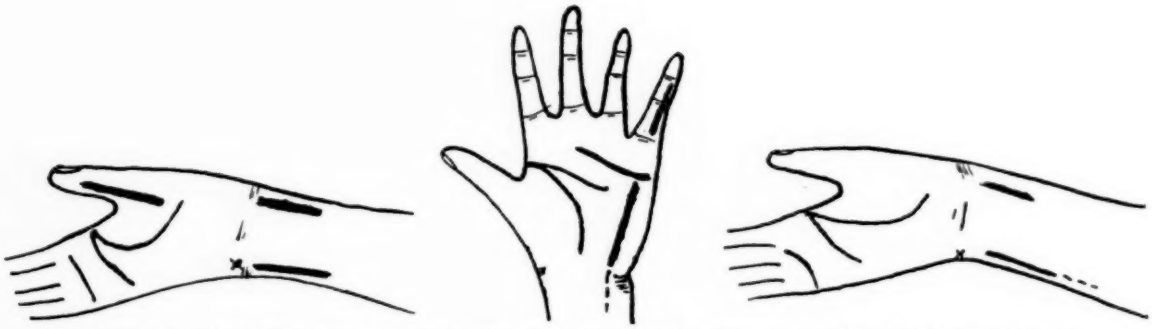
The Index Finger.—The sheath is opened on the radial side unless it has been shown at the clinical examination that the lumbrical canal between the index and middle fingers is involved, when the ulnar side is selected. Should pus ooze out on pressure over the lumbrical canal between the first and second fingers, then this lumbrical canal is best drained by splitting the web as far as the distal palmar flexion crease. If the radial side of the sheath has been opened, pressure is exerted over the thenar space. If pus is squeezed out the thenar space is drained in the manner that has been previously described. The possibility, but great rarity, of infection of the middle palmar space from the index tendon sheath must be borne in mind.

The Middle Finger.—It must be decided which side is involved maximally, whether the lumbrical canal on the radial or the ulnar side. The general technic, already laid down for opening tendon sheaths, should be followed. If the ulnar side has been chosen and pus can be made to well up out of the lumbrical canal, the incision should be carried downward to the distal palmar flexion crease. In early cases the middle palmar space is not involved; the pus lies between the flexor tendons and the palmar fascia, and a palmar extension of the original incision is all that is required. If infected, that space is drained in the manner described. In involvement of the lumbrical canal on the radial side, the possibility, but great rarity, of thenar space infection should be remembered. Treatment of the middle finger is the same, with the exception that if in doubt as to which side to open the sheath, the radial side should be chosen.

The Ring Finger.—Treatment is the same as for the middle finger, with the exception that if in doubt as to which side to open the sheath, the radial side should be chosen.

The Little Finger and the Ulnar Bursa.—Suppurative tenosynovitis of the little finger is treated by making an incision on the ulnar side of the sheath over the two proximal phalanges. When the tendon sheath is occluded from the ulnar bursa, shown by limitation of tenderness to the fifth sheath, the incision is confined to the little finger.

The ulnar bursa is involved if, having made the above incision, pressure is exerted on the palmar portion of the bursa and a purulent exudate welling up from the inferior end of the wound is seen. An incision from the distal flexion crease should be made toward the base of the palm along the center of the hypothenar eminence, inclining rather to the radial side. A pad of edematous fat will be seen bulging into the wound. This should be removed and a grooved director passed into the bursa from the sheath above. The bursa is opened, cutting as near to the ulnar side as possible. When the anterior annular ligament is reached, pressure is exerted over the prolongation of the bursa in the forearm. The anterior annular ligament is cut, remembering that the radial and ulnar bursae usually communicate. One should look for signs of infection here also (flexion and rigidity of thumb). The forearm should next be drained in the manner to be described later.



I—Drainage of thumb and radial bursa. H—Incision for drainage of ulnar bursa. J—Incision for drainage of forearm.

The Thumb and the Radial Bursa.—The radial bursa is the extension of the sheath of the flexor pollicis longus. The tendon sheath begins at the base of the distal phalanx of the thumb. It passes through the thenar eminence under the anterior annular ligament, where it ends. Its blind extremity lies upon the pronator quadratus and under the flexor digitorum profundus.

The clinical features of tenosynovitis of the flexor pollicis longus are: Flexion of the distal phalanx of the thumb with rigidity and tenderness over the sheath and maximal swelling just above the anterior annular

ligament. Somewhat on the radial side of the front of the proximal phalanx one should dissect down upon the tendon of the flexor pollicis longus, and follow the sheath through the thenar eminence separating the muscles which form the eminence. The tendon lies nearer the palm than one is inclined to think. The incision must not be extended beyond at least a thumb's breadth of the anterior annular ligament for fear of cutting the motor nerve to the thenar muscles which cross the sheath between this point and the anterior annular ligament. Drainage of the radial bursa is carried out by the ulnar-forearm method about to be described.

Rupture of the radial and ulnar bursae allows the pus to travel in the fascial plane between the flexor profundus on one hand, and the pronator quadratus and interosseous membrane on the other, up the arm. It is in this plane, which is deep in the arm that the pus tracks form, only later to become more superficial. With the utilization of this knowledge, drainage can be instituted early and with precision.

For drainage of the forearm in all infections of the forearm and hand, the incision should be commenced two fingers breadth above the styloid process of the ulna, in order to avoid the radial artery on the radial side. The incision is made on the flexor surface of the ulna right to the bone. It should be at least two inches long. A closed hemostat is passed across the flexor surface under the flexor tendons and then opened. A finger is passed in and the flexor tendons found by passively flexing and extending the patient's fingers. These having been located, a hemostat is passed from the palmar incision and the radial bursa ruptured. No drains are used.

Suppurative tenosynovitis may be compared with suppurative peritonitis, not only in its pathogenesis, but also in the sequelae of neglected cases. In the former condition, fibrous adhesions immobilize the tendon, and in the latter, the gut. For practical purposes, however, a more forceful comparison may be made with acute suppurative osteomyelitis, owing to the situation of pus products under great tension in both instances. The paramount importance of early intervention in cases of acute suppurative osteomyelitis is now obvious. No less true is that of suppurative tenosynovitis. Pyogenic bacteria invade the tendon sheath, inaugurate an inflammation which spreads like a locust plague along the synovial lining, exciting an outpouring of pus products the great tension of which, as they accumulate in the fibrous sheath, seriously hazards—if it does not actually destroy—the blood supply through the mesotendon, with inevitable death of the tendon. It is, therefore, just as urgent to give vent to pus under tension in a tendon sheath as to give vent to pus under tension in the medullary canal of a bone. One should be mindful of the fact that it is one thing to rid a hand of infection and preserve the hand; but it is quite another thing to rid a hand of infection and preserve the function of the hand.

SUMMARY

Correct treatent of suppuration in the hand rests largely on correct diagnosis, and accurate diagnosis of the location of pus in the hand does not come as a surgical intuition. The treatment of severe infections of the hand is an outstanding exception to the rule that practical experience is more important than theoretical knowledge. Therefore, we must know the location of the *seven fascial spaces* where pus can accumulate, their extent and anatomical boundaries, and their relationships with important structures. We must know the location, extent, communications between, and anatomical relationships of the tendon sheaths and their prolongations into the forearm. We must (1) always operate under anesthesia; (2) always use a tourniquet; (3) always sit down to the job; (4) always dissect carefully; (5) always incise a tendon sheath on the side; (6) always, in opening a finger for tenosynovitis, begin at the proximal phalanx and enlarge as indicated by making a second incision along middle phalanx, never a continuous incision; (7) be liberal in the use of the grooved director and the blunt nosed hemostat, and be restrained in the use of drainage material in the hand; (8) always be sure that all drainage necessary has been established, as it should not be expected that drainage of the ulnar bursa will take care of a radial bursal infection, or that openings made in the palm will drain pus from the forearm; (9) always take x-ray photographs after the fifth day; if necrosis of phalanges is present, amputation should be recommended.

Highland Park Osteopathic Clinic, 13535 Woodward Ave.

Repair of Cell and Vessel Wall*

CHARLES HAZZARD, PH.B., D.O.
New York

Wallace M. Pearson[1] made a cogent statement when he said: "One of the greatest problems of osteopathic care is the normalization of the blood supply to the arterial wall. . . . The osteopathic problem is to keep the blood vessels nourished properly. . . . When the nutrition and the nerve supply to the blood vessel wall enter the picture of osteopathic care and treatment, we face one of the previously unknown possibilities of therapeutics, that of *truly prophylactic* treatment. The importance of blood supply and nerve supply has never been questioned, but until osteopathy made an inroad into the field of therapeutics, no one had been able specifically to give *new life* to the blood vessel wall." (Page 156) [Italics mine]

As a corollary to this, and to take a step further, one might reasonably say that repair and conditioning of the cell wall are of equal importance in our therapeutic work.

Tissue change, or disease, must in many, perhaps in the majority of, instances first begin at the cell and vessel wall. So let us consider the nature of cell and vessel walls, and how we may, by osteopathic means, affect them physically, mechanically, electrically, chemically, and so forth. We deal fundamentally with the physics and the chemistry of the cell in our distinctive osteopathic work, and our primary therapy

* Delivered before the Vermont Osteopathic Society Convention, Randolph, October 3, 1934.

deals with cells and vessels; more specifically, with cell and vessel walls.

When we attend to the nutrition and repair of cell and vessel walls, when we give then *new life*, our work is indeed, as Pearson says, "truly prophylactic treatment." By doing this we forestall the "small beginnings of death."

It will be proper to include in this discussion, also, various other considerations of interest and importance regarding certain conditions and aspects of cell and vessel physiology. We well know that both cell walls and vessel walls are readily permeable, and that this permeability varies greatly under various conditions, according to the manner in which they are affected on the one hand by the normal physiological demands laid upon them, or, on the other hand, as they are burdened by pathological processes. The various accidents and pathological processes that constantly befall the groups of vessels and of cells among the many trillions which make up the human body, constitute the objective of our therapeutic work. Our problem is to apply our corrective work in time to save the tissues.

It would, of course, be impossible for us to know how often, by so doing, we perform, as it were, miracles in embryo,—"a stitch in time" saves many lives. By our work, much more than we know, do we intervene. Manipulative treatment at any time does good, just as breaths of fresh air do, or a good drink of water, or exercise, enjoyment or pleasurable excitement, because of the valuable incitement of the endocrines at the "psychological moment."

As McDowall[2] remarks, "We marvel at the variety of physiochemical processes upon which our life is based, and our activities guided." Hiccoughs may be cured by causing the patient to continue to breathe into a paper bag held against his face. This causes the rebreathing of the same air. We may cause an important chemical change in the system by merely holding the breath. McDowall states that if the breath is held, or in asphyxial conditions, there is an increase of ammonium salts in the urine, while after a period of forced breathing there is a reduction in the excretion of ammonium salts.

As Macleod[3] explains, if a man breathes forcibly and rapidly for, say, two minutes, he then loses the desire to breathe for a time; that is, he has produced a state of apnea. Macleod further shows that this increased blowing off of CO_2 from the blood causes a general alkalosis, which is demonstrated by a great increase in the excretion of alkali in the urine and a corresponding decrease in ammonia. He further remarks that, "The urine may indeed become alkaline in reaction if the forced breathing be kept up for a long time (fifteen to thirty minutes), and a most interesting train of symptoms, known as tetany, supervene when this is done."

Osteopathic physicians know, of course, of the value of deep breathing, and of its value to their patients who will acquire this habit. The ability to breathe deeply is made easier by correcting spinal or rib lesions, and by special manipulative measures to the diaphragm itself. These measures are applied while the patient domes the diaphragm after forced expiration. This is, of course, merely elementary. We may here reasonably think of how much further we go. For example, as Pearson[1] says in speaking of the thorax: "Poor [blood] cell production, lack of suitable rib nutrition, improper nutrition and innervation to blood vessels and capillaries, are all characteristics that are removed by the normalization of the thorax through osteopathic treatment." (Page 156)

We may here also refer to the valuable studies of Louisa Burns[4] upon the production of red blood cells by the bone marrow of the ribs, and the great value of osteopathic correction of thoracic and rib lesions toward rehabilitation of the blood in the anemias, and so forth.

We should also think, in this connection, of C. P. McConnell's[5] valuable study of the mechanics of doming the diaphragm, and its relation to osteopathic control of body chemistry. He says: "He who overlooks the ventral section of the body neglects some of the greatest adjustment values of osteopathic therapy. In many instances, the osteopathic solution is dependent upon determining the status of the diaphragm, that tremendous piston-like engine whose activity is necessary to the welfare of *every cell* of the body. Here is literally a great power that should not be viewed in terms of ultimate tissue respiration alone, for example, but [as] an essential of all the exquisite physiological balance of thoracic, abdominal and pelvic viscera." (Page 432) [Italics mine]

The relation of this work to the functions of liver, kidneys and intestines should be thought of with reference to its effect upon cell chemistry. We know, for example, that the functioning of liver and kidney is the chief means of maintaining body neutrality; that is, the normal acid-base balance, and with it the normal osmotic status of all body cells. Furthermore, both liver and kidney are possessed of bactericidal powers, thus contributing to still another body function. As a matter of fact, the body is in a constant state of chemical *qui vive*. The status of its cell and vessel tissues is changing every instant. I hope to show that the osteopathic physician, as stated above, constantly and readily intervenes in this chemical picture, by way of giving the body such normal guidance and correction as to safeguard or restore health.

I believe that, whereas science has typed only four or five forms of pneumonia, while there are numerous other forms yet untyped, and there has been developed for these type forms sera which the so-called "old school" medical man believes aid in the cure of these cases, the osteopathic physician is able so to intervene in the chemical processes of the body that he actually produces, in the body of the given case, the serum armed with the antibodies appropriate to the cure of the type that is present no matter which it be.

He has here the body of the patient, sick with that type of pneumonia, a body which, we are taught to believe, has within it all the "makings" for meeting this emergency. Why should it be necessary first to give pneumonia to a horse, and then withdraw from the body of that horse a serum to inject into the arm of the patient? So many thousands of *all types* of pneumonia have, in the last extremity, been saved by osteopathic manipulative treatment that one can hardly escape the conclusion that this is true. One

day, perhaps, we may have the actual chemical, as well as clinical, proof thereof.

I have before[6] shown that the permeability of the capillary is readily and constantly altered by such conditions as anoxemia, toxemia, and various nervous states (e.g. the blebs of herpes zoster, the swelling of angioneurotic edema, etc.), as well as by vitamin deficiency; that the so-called "cold sore" is an illustration of tissue damage caused by congestion and its resulting toxic effects, which damage the cell walls and upset both their physical and chemical balance; that, in a certain sense, the body is in a constant state of flux, since there is continual change in the tone of the tissues, in the permeability of the cell walls, and in the *status* and *locus* of the fluids of the body; and that during periods of hypotension the fluids of the body retire largely into the tissues. I have also shown that fatigue toxins, body toxins of any sort, exogenous or endogenous, readily engendered, cause widespread osmotic, and hence chemical, disharmony; and that the endocrine balance, so vital to the chemical comfort and functional health of our bodies, would be destroyed.

Speaking of dropsy, Starling[7] says that lack of oxygen rapidly increases the permeability of the capillary walls, and that the dilator effects of the carbonic acid and other weak acids on the arterioles seems to be shared by the capillaries. While McDowall[2] remarks, quoting J. S. Haldane: "Anoxemia not only stops the machine but it wrecks the machinery."

The osteopathic physician helps the blood forming organs to manufacture a good supply of blood and keeps this blood circulating throughout the body, flushing the capillaries and arterioles with oxygen and removing worn out tissues, thus repairing cell and vessel walls. McDowall[2] says that it has been shown by Krogh, that in exercising a muscle, a large number of capillaries, previously closed, become opened up, thus washing out the products of metabolism and causing the utilization of stores of energy. Exercise also increases the vasomotor tone.

In this connection, he also points out that, "The blood flow through a part is also increased by means of the Loven reflex, by which the sensory impulses bring about dilatation in the organ from which they proceed. This reflex, which is quite clearly established (Bayliss), appears to be of the nature of an axon reflex."

Exercise directly affects both cell and vessel walls. It stimulates these walls; brings to them more oxygen and food by way of their fluid media; contracts the Rouget cells; quickens trophic influences; passes fluids along through walls and vessels; removes fatigue toxins; and favors normal function.

It is germane here to remark that one important effect of osteopathic methods of treatment, in view of the above facts, is the benefit of passive movements administered to a patient unable to take active exercise.

As to the cell walls, and the vessel walls more specifically, there are certain interesting and significant facts to note. Macleod[3] states that: "[certain] changes in the caliber of the capillaries have been shown by Vimtrup to be brought about by the peculiar oval branched cells first described by Rouget. They lie at intervals on the endolethial wall of the capillary which is more or less encircled by fine branches springing from the cells. When a local mechanical stimulus is applied to the web [i. e. the outside of the foot] of the frog, the Rouget calls are said soon to show a change in refractility preceding a contraction of the capillary, which starts in the region of a cell. Near the arterioles those cells become more numerous and from lying in the long axis of the capillary gradually turn so as to be at right angles to it, and finally they merge into the muscular fibers of the arteriole. The number of Rouget cells varies on the capillaries of different regions." (Page 470)

Here I quote from one[6] of my former papers: "He [Macleod] has also shown . . . that the capillaries alter not only in caliber but also in permeability; that this permeability varies for capillaries in different regions, being greatest in the liver, where it may become so great that certain colloidal particles *actually pass through the capillary* walls, thus naturally causing an osmotic pressure; and he goes on to say: 'Since these particles are of varying sizes, and since they can create an osmotic pressure, it is obvious that the magnitude of this pressure in the capillary blood will be proportional to the existing state of the capillary walls. Thus when these are dilated and highly permeable, the smaller colloidal particles will diffuse out and the osmotic pressure of the blood become lessened . . . and water will tend to pass into the tissues. In other words, lymph, with a percentage of protein not much less than that of the blood plasma itself, may be filtered through capillaries with highly permeable walls.' " (Page 490)

Another quotation from Macleod[3] published in THE JOURNAL article just referred to is that: " 'Not only may the capillary wall vary from time to time in its permeability toward proteins, but *the cell wall* [italics mine] itself may show a selective permeability towards ions which are of equal diffusibility. This, of course, by virtue of trophic influences.' " (Page 490)

Speaking further of the liver vessels, Starling[7] says that "it is in the liver . . . that we find the greatest permeability. Here a *very small pressure* suffices to produce a great transudation of lymph, containing practically the same amount of protein as the blood plasma from which it is formed." (Page 869) This is due, he says, to the fact that these capillaries have not a complete endothelial lining; that the cells surrounding the capillaries are large and branched, and possess marked phagocytic powers; that owing to the incompleteness of this investment the liver cells in many places actually abut on the lumen of the capillary.

We should note, in passing, that the particular nature of the liver vessels described above constitutes certain special considerations from an osteopathic point of view. We may consider what important results may be gained by a thorough careful liver treatment, both in its direct mechanical effect upon the organ itself, affecting its cells and vessels, and also in affecting the whole blood supply, and all the nerve plexuses concerned, as well as in the effects gained and made permanent by correction of spinal, rib and other lesions. It should be considered carefully, also, the harm one might do by rough handling of this

organ, especially in an alcoholic in whom both cells and vessels of the liver are friable.

Osteopathic physicians are certainly arrogating to themselves no special privileges in feeling that, if a scientist can apply a local mechanical stimulus to the web of a frog's foot and thus affect the function of the Rouget cells, altering the caliber of the capillaries, etc., the former can, by osteopathic means, gain similar results upon the capillaries in the human system. And it is no unwarranted assumption for them to claim that, by all the osteopathic means at their command, osteopathic physicians can profoundly affect capillary circulation, capillary status, (i.e. permeability) status of cell walls, and thus, exchange of fluid media. It should be borne in mind also, that it is *just here that delivery is made*, the chemistry and the physics of the cell affected, and disease combated at the foundations of its stronghold.

Now Starling[7] states facts of tremendous osteopathic significance when he says that "There is no doubt but that both the caliber of and the resistance to the flow of blood through *the capillaries* are intimately dependent on the *nutritive condition of the cells composing their walls.*" (Page 853) He shows that, by virtue of the active contraction or change of form of the Rouget cells, "The spontaneous changes constantly taking place in the diameter of the capillaries . . . may be quite independent of concomitant arterial alterations." (Page 853) He states that during activity the total capacity of the capillaries of muscle may be increased from 0.02 per cent to 15 per cent of the total volume of the muscle. He says: "The phenomena of dropsy show us that the capillary wall is very sensitive to the continued absence of oxygen, oxygen starvation rapidly increasing its permeability; and it seems that the presence of oxygen is an essential condition of any reactivity to moderate nutritional changes on the part of the capillaries." (Page 854). [Italics mine.]

He shows that, "Every active contraction of muscle . . . is attended by the breaking down of a few large molecules into a number of smaller ones, and this increase in the number of molecules causes a rise of osmotic pressure in the muscle fiber and surrounding lymph, and therefore a passage of fluid from blood to lymph," (Page 870) and further: "Any factor which leads to impaired nutrition of the vascular wall, such as deficiency of supply of blood or oxygen, the presence of poisons in the blood or the surrounding tissues, scalding or freezing, increases at the same time its permeability. Under such conditions the limb capillary reacts to changes of pressure like a liver capillary, the slightest increase of pressure causing an appreciable increase in lymph production." (Page 870)

Let us, therefore, bear in mind the great fact that the state of nutrition of the cells composing the capillary walls determines both the caliber and resistance of the blood flow through these capillaries. That is, put more concisely, the nutritional state of the walls of the capillaries determines the circulation through them.

When Pearson[1] said: "When the nutrition and the nerve supply to the blood vessel wall enter the picture of osteopathic care and treatment, we face one of the previously unknown possibilities of therapeutics, that of truly prophylactic treatment. . . . Until osteopathy made an inroad into the field of therapeutics, no one had been able specifically to give new life to the blood vessel wall," he indicated and characterized that therapeutic corner stone of osteopathy promulgated by Dr. Andrew Taylor Still: "The rule of the artery is supreme."

The cell wall relates the activities of the mass of protoplasm which is the cell to its surrounding media. It must be of a nature which facilitates exchanges of all kinds between the two. It must be permeable under the right conditions; sometimes more, sometimes less. It is this permeability, which must also be of a selective nature, which enables a cell to assimilate and to excrete. Starling[7] says that it has been suggested by Overton that the limiting membrane (of the animal cell) is lipoidal in nature, formed of a mixture of lecithin and cholesterin, but adds that it seems certain that proteins also compose, in part, this membrane or cell wall.

The permeability varies with the state of the cell. Activity of the cell is always attended with increased permeability, and it is further shown (by Starling[7]) that: "The membrane must *change its chemical and physical character with every change in the environment* and with *every change in the state of the activity of the cell.*" [Italics mine] Such being the case, no osteopathic physician, with these facts in mind, and mindful also of the experience which is his, that his work arouses marked tissue activity, could doubt that he is able thereby to alter the status of the cell wall and to build it up into functional excellence.

Thus the permeability depends upon the cell function, and equally, the cell function depends upon the permeability.

Going a step further, it is shown (by Starling[7]) that, "Not only does the function of the cell *determine the properties of its surface*, but the *reverse holds true*. Cell activities seem to be determined to a very large extent by the presence of substances in the surrounding medium which cannot penetrate the limiting membrane of the cell. This is especially well marked in the case of contractile tissues such as the heart, where (as we have seen) the normal beat depends on the presence in the surrounding fluid of K, Na, and Ca ions. None of these can penetrate the cell membrane so as to gain access to the interior of the cell: they can merely be *absorbed on the cell surface*, and it is their presence there which in some way or other determines all the functional activities of the muscle cell." (Page 21) [Italics mine] It further seems that there is a struggle between these ions which cannot penetrate the cell wall and those which could penetrate it but for the presence of the former, these differing ions being possessed of opposed electric attractions, so that this electrostatic tension gives rise to a charge on the surface of the cell. This will help to explain why function depends upon the properties of the cell surface.

In a former paper[6], I went to considerable length to show that, it having been proved that stimulation of the vagus nerve changes the chemistry of the blood stream, and that vagal stimulation also alters cell and body chemistry, the osteopathic physician can readily alter the permeability of the cell wall, and, with it, the osmotic tensions in the tissues.

Many anatomical and physiological agencies aid the doctor of osteopathy in affecting the cell and the

vessel walls: Blood and nerve supply in general; the vasa vasorum and the vasomotor nerves in particular; the stimulation of the endocrines and of all the vast chemical resources of the human system, together with many other agencies. All of these help him in the work of normalization, which is, at bottom, conditioned upon the fact that he really can and does repair both cell and vessel walls. Otherwise, it hardly seems that he could show results at all. In fact, an osteopathic physician could scarcely administer any sort of manipulative treatment without bringing about a certain measure of normalization of cell and vessel walls.

551 Fifth Ave.

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The Development of Posture and Its Importance

III

Short Leg

E. R. Hoskins, D.O.
Chicago

[*This is the third in a series of articles on posture presented for the purpose of stimulating thought rather than of attempting to set up rigid rules or classification of findings. The first two articles were published in* The Journals of the A.O.A. *for August and October, 1934.—Editor*]

The human mechanism as it is affected by actual inequality in the lengths of the legs has been told by W. A. Schwab in his series of articles entitled "Low Back Pain," appearing in various numbers of The Journal from 1932 to 1934.

It may be concluded from these articles and many others, appearing in both allopathic and osteopathic literature, that the development of good or bad posture is dependent upon conditions of body structure. The structure, as a whole, is dependent upon its individual parts. All parts must be in normal interrelationship and must have normal function for the development of good posture. Either hereditary or acquired structural abnormality of a part requires extra effort by other parts to maintain relationships sufficiently near the normal to do ordinary work.

One of the most common structural abnormalities which may result in bad posture and needless muscular effort is inequality in the lengths of the lower extremities. The making of standing radiographs for the determination of leg lengths is simple, yet to be accurate, must conform to certain procedures. It is the purpose of this article to acquaint the physician with the technic of taking standing radiographs, that he may be able to give the x-ray technician correct instructions.

The individual patient figures in the technic only as to his height and density. All of the other factors are of a routine nature, and if this routine is constant, dependable results are assured. For an anteroposterior film, the patient is placed with the internal malleoli touching, directly over a line drawn on the floor. The film and the target of the x-ray tube are bisected by a vertical plane, erected on that line. This plane was explained in The Journal of the A.O.A. for August, 1934, p. 529.

The adage, "Hew to the line, let the chips fall where they may," might be, "Put the malleoli on the line, let the hips fall where they may." With this preliminary placement of the patient, the only additional procedure required is the adjustment of the film, with its lower margin parallel to the floor, and the tube at the required height from the floor to include the region to be radiographed. Measurements are made on the developed film of distances from its lower or upper margins to shadows of comparative anatomical points. The shadows made by the articular surfaces of the femurs are usually the anatomical points chosen for comparison. Thus, the relative distance from the floor can be determined.

One who does much of this work will be surprised at the frequency that unilateral coxa vara is seen and the still greater frequency that uneven femoral neck angulation is recognized. These observations would make one distrust measurements, using the greater trochanter only as a landmark.

If there is a difference in the relative distances of the heads of the femur from the floor, the next procedure is to determine where the actual shortness is located, in the thigh, the leg or the foot. By lowering the tube and film so as to take a radiograph of the knee-joint, the relative distances of the shadows made by the upper surfaces of the tibial bones from the margin of the film can be measured. If these distances are equal, the shortness must be in the femur. If unequal, the shortness may be in the tibia or in the structures of the foot. In the latter case, we lower the tube and film still farther, or else place the patient on a level platform so that a radiograph may be

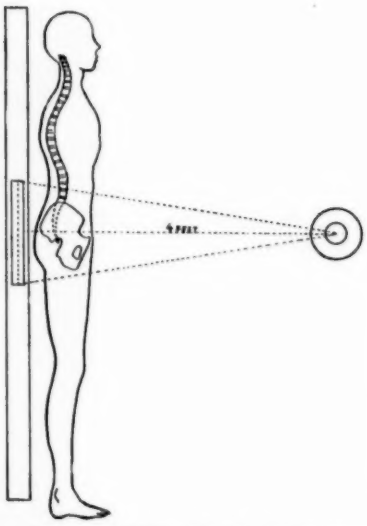

Figure 1. Set-up for leg measurement. Viewed at right angle to direction of rays.

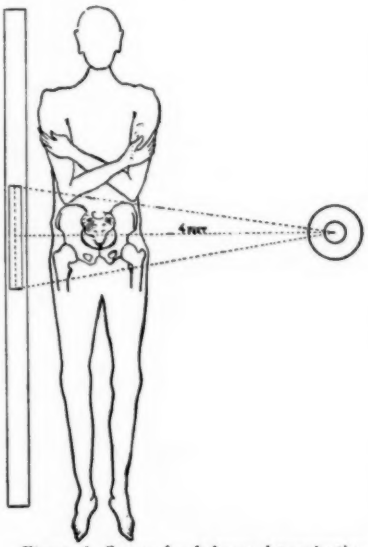

Figure 2. Set-up for balance determination. Viewed at right angle to direction of rays.

obtained of the lower ends of the tibial bones and of the ankle joints. Relative distances are measured from the shadow thrown by the upper margin of talus to the edge of the film.

Thus, by these various procedures, the location of the short structure can be determined.

There are a few more points upon which caution should be exercised. The patient must not lean on the table, nor can he be steadied by compression bands if accuracy is desired. If there is short leg present, with resulting muscle imbalance, the patient cannot stand still for more than a few seconds. For this reason a long time element of exposure—thirty seconds—has been found best. The radiographs will not be as clear as some, but the structures will be outlined and in addition the sway of the body will be shown. This sway graphically represents needless muscular effort. One of the striking observations, resulting from this work, has been the improvement in balance as demonstrated by the lack of sway after a patient who needs a lift has been fitted accurately with one.

The taking of roentgenograms for the purpose of measuring leg lengths should be ritualistic enough to be duplicated at different times in the same laboratory or different laboratories using the same routine.

The vertical midline of the film automatically becomes a projection of the plane between the internal malleoli. Another interesting finding in this work has been the bringing of the midline of the body structure over to this midmalleolar line by osteopathic care. This has been accomplished by localized treatment, but the benefits have been of considerably more value to other structures, particularly the internal organs, as shown by the relief of symptoms in patients who had osteopathic corrective work.

Films taken by this method form an accurate, dependable guide for determining the efficiency of treatment directed at scoliosis. For lateral work, the above routine is followed, except that the two external malleoli are carefully placed on the line representing the projection of the vertical plane containing the midline of the film and the focal point of the x-ray tube. Some confusion is inevitable because of superimposing of projection of two femurs and two ilia.

It is axiomatic that the opportunity for error in making standing radiographs is decreased by the simplicity and routine character of the technic. The information is reliable and of great value in determining the cause of postural abnormalities.

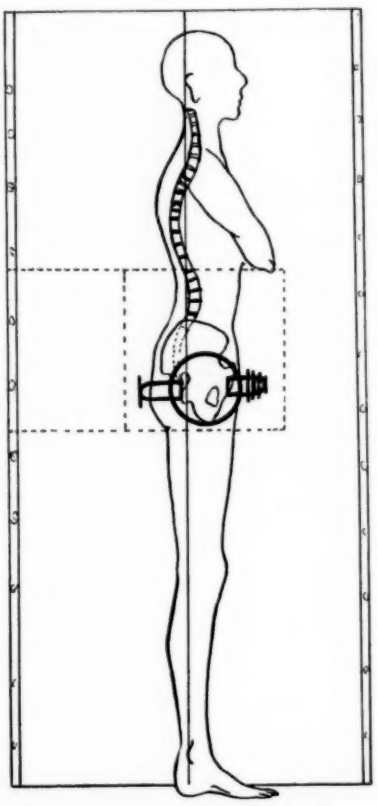

Figure 3. Set-up for balance determination. Viewed in line of direction of rays.

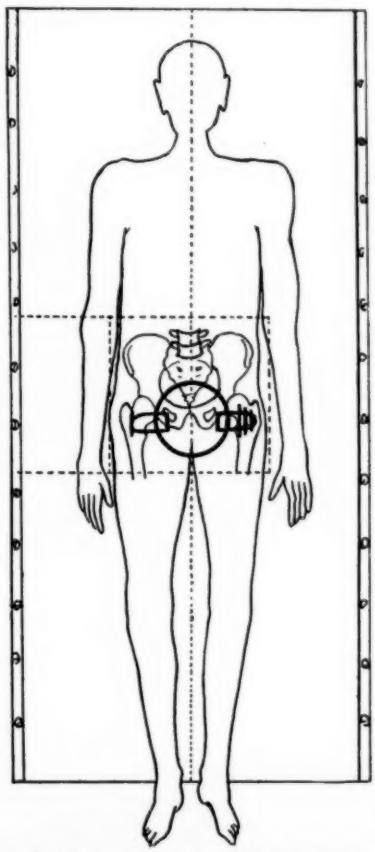

Figure 4. Set-up for leg measurement. Viewed in line of direction of rays.

The Teaching of Technic in Osteopathic Colleges*

William W. W. Pritchard, D.O.
Los Angeles

In accordance with a request from Dr. Rogers, I sent a questionnaire to the technic departments of the several recognized osteopathic colleges under date of May first, requesting an immediate reply. At the time this article is written, (June 3, 1934) two of the colleges have not as yet replied. I will therefore discuss the subject in three phases. First, the problem of the present day student and instructor; second, the method used by the College of Osteopathic Physicians and Surgeons, Los Angeles; and third, a summary of such information as I have at hand from the various colleges.

An appreciable number of students in our osteopathic colleges today have had no personal experience with osteopathic therapy. They have a high school diploma, usually some preprofessional college grade work in physics, chemistry and biology, and often an A.B. or other degree. In the teaching of principles and of technic, they are concerned more with the *why* than with the *how*.

Advancement in all the sciences has been due to the discovery of the weaknesses of the previous teaching or concepts. The teachers in our present colleges have due reverence for the teachings of their predecessors, but they could not be true to themselves or to their profession if they were to try to promulgate teachings and concepts which have been proved untrue. They cannot lend themselves to the perpetration of errors, or erroneous statements. The concept of osteopathy, that the circulation is of paramount importance, has been established beyond any question. The research work which establishes this point has been largely carried out by the allopathic profession. The essential points in our osteopathic concept are championed by such men as Drs. Pemberton, Coulter, Mennell and Kuntz, all of the orthodox school, and Dr. Louisa Burns of our own school. Their works serve to answer the *how* and *why* which is asked by the present day student of osteopathy. Our student of today is not fired with a religious-like enthusiasm for osteopathy, nor is his instructor. Truth survives on demonstrable facts, not on enthusiasm. The problem of our present day instructor in technic is to present established anatomical and physiological facts in such a manner and in such sequence that the student will duly appreciate the value of manipulation as a therapeutic agency, but not necessarily to the exclusion of all other forms of therapy. The student must be taught, by facts, to see that while manipulative therapy is not the "one and only", the "beginning and the end" of all therapy, yet no therapy without manipulation is complete. Other forms of therapy should be adjunctive to manipulation in most instances, rather than manipulation being adjunctive to other forms of therapy.

In the College of Osteopathic Physicians and Surgeons, we teach 99 hours of combined principles and mechanics, covering a history of why the osteopathic school had its beginning, its principles and concepts with emphasis upon biology, embryology, anatomy and physiology. The "Autonomic Nervous System" by Kuntz, of the St. Louis University School of Medicine serves as a textbook to support and establish all biological, embryological, anatomical and physiological facts taught. We teach 132 hours of laboratory technic to our students before they are ready for their clinical experience. At present we begin in the third trimester of the sophomore year and continue four hours laboratory work per week through the first and second trimesters of the junior year. The head of the technic department not only teaches principles and mechanics, but also teaches the practice courses, so we are assured that osteopathic fundamentals are accentuated throughout the student's college course. We use one technic instructor to every twelve students, so that each student gets the maximum value for the time spent in laboratory work. The head of the technic department meets regularly once each week with the technicians to see that all work is properly coördinated and correlated. All instructors teach the same principles of correction at the same time, and laboratory notes are provided for the students. In addition to lesion diagnosis and correction, we teach specific therapeutic technic for the various groups and individual diseases. Each student gives a minimum of 600 osteopathic treatments in our clinic and spends not less than 3 months nor more than 5 months in our clinic. Most of our technic instructors act as examiners in our clinic.

Kinesiology is incorporated in the course of technic and not taught as a separate subject. We are strictly following the officially accepted nomenclature of the Associated Colleges of Osteopathy. There is a marked contrast between our graduates of today and those who graduated five to eight years ago. Our graduates of today are firmly intrenched as to *why*, *when*, *where* and *how* to treat. After serving six months of their senior year in the Los Angeles County Osteopathic Hospital and three months in our own clinic, we feel that we are turning out osteopathic physicians and surgeons who are "sold" on osteopathic therapy and who will be a credit to the healing art.

A summary of the information which I have at hand indicates that our colleges in general teach 100 hours of principles of osteopathy. Some include mechanics in the course of technic, others teach as much as 108 hours of mechanics. From 90 to 215 hours are spent in teaching laboratory technic. All technic is taught before entering the clinic, in most colleges during the sophomore and first part of the junior year. In most instances, the head of the technic department does not teach principles and mechanics. From two to twelve instructors are used in each college. In at least three colleges, the head of the department meets with the instructors once a week through part if not all of the year.

*Presented before the Educational Convocation arranged by the Bureau of Professional Education and Colleges, 38th A.O.A. Convention, Wichita, Kans., 1934.

In at least three of our colleges, the laboratory work is coördinated so that all of the instructors are teaching the same principles at the same time. The colleges run from six to twenty-five students for each instructor in technic. Two colleges teach specific therapeutic technic, the others cover it in such courses as "Applied Osteopathy," etc. Three colleges require 600 treatments, others a specified number of case reports, in any case a satisfactory demonstration of ability. In all colleges reporting, some of the technic instructors if not all, act as examiners in the clinics. In one college the practice of osteopathic medicine is taught by the head of the technic department, in another the major part of practice is taught by the technic instructors. Another does not have a separate course in practice, and in the other school none of the technic instructors are teaching classes in practice. Kinesiology is incorporated in the courses of technic of all of the colleges reporting to me. All colleges reporting indicate that they are following the terminology of the Associated Colleges of Osteopathy, accepted at Milwaukee in 1933. This is to be highly commended as, right or wrong, it will give us a common terminology which can be corrected or revised as time and necessity require and will save us from talking in terms which are not intelligible to our brothers.

In conclusion, let me say that the last few years have seen the Associated Colleges of Osteopathy take a long step forward in the teaching of principles, mechanics, technic, and therapy. Our colleges are keeping abreast of the times and are fully familiar with all advances in the science of caring for the sick. None of our colleges overlook the value of the various laboratory methods of confirming the physical findings in examination of the sick patient. The colleges are keeping their feet on solid ground, and if the members of the profession will unite in sending in new students and in taking postgraduate instruction themselves, there is no limit which our honorable and noble profession may not attain.

743 N. Ave.

The Relation of Pelvic Diseases to the Psychoneuroses and Psychoses*

MARY ZERCHER, D.O.
Topeka, Kans.

To those who have been engaged in nervous and mental work for some time this paper may seem to be more in the nature of a gynecological than of a neurological discourse. However, if it proves a stimulus to closer coöperation with the gynecologist and internist in problem cases, it will have served its purpose.

Although many physicians elect to major in one particular field, clinical experience forces us to admit the interdependence of the various departments of practice. Every disease, functional or organic, is a potential neurological problem.

In a study of the literature of today, one is confronted with two divergent views regarding mental symptoms. We have the somatists presenting clinical proof that organic pathology will induce a neurosis. Any departure from normal behavior is the result of some molecular biochemical or physical alteration in the structure of the cerebrospinal and vegetative nervous systems. In contradistinction to this view, we have the psychoanalytic school, advancing the theory that certain functional pelvic conditions are of psychogenic origin. My purpose here will be to discuss briefly and impartially both scientific views.

Jung says that the physical and psychological viewpoints are opposites and require entirely different procedures, but that they can and do exist together. Viewing the organism as a whole, if there be an irritative lesion in any part of the body sufficient to impair the general health, mental symptoms will be present. The degree of mental aberration will depend upon the extent of the pathology and the constitutional make-up of the individual, whether or not evidence of a neuropathic tendency is shown. The neuropsychiatric clinic of the Pennsylvania Hospital reports finding in nearly 50 per cent of its psychoneurotic patients evidence of definite somatic disease. Far back in the early history of psychiatry, Hippocrates taught that the uterus wandered in search of humidity and that it exerted pressure on other organs thereby giving rise to symptoms. The Greeks held that hysteria had its seat in the uterus—hence the name.

For the purpose of illustration, I should like to describe a typical case of psychoneurosis. The patient is a woman. She is introspective, disturbed; there are anxiety and marked obsessions. In addition, she gives a history of menorrhagia, low-back pain and leukorrhea. Upon physical examination the patient is found to harbor an ovarian neoplasm which has superinduced the psychasthenia. With the etiology uncovered, the physician sets about to adapt his therapy to it. Treatment here will be the removal of the tumefaction as the exciting cause, the correction of osteopathic joint lesions, psychotherapy and endocrine therapy. As a rule, the neurosis of psychosis disappears in two to six months following removal of the physical cause and the addition of appropriate psychotherapy.

It is a common observation that an endocrine imbalance will provoke mental aberration, hysteria, fears, and anxieties, the ovary being the common

*Delivered before the 38th A.O.A. Convention, Wichita, Kans., 1934.

offender here. Witness the patient suddenly carried into a natural or artificial menopause; she may go into a melancholia, if previously sexually active. In a review of case histories from osteopathic sanitariums, we find pelvic pathology linked with clinical nervous manifestations in a certain percentage of cases. As a general rule, a neuropathic constitution was in evidence. Some of the commoner conditions resulting from pelvic lesions were hysteria, neurasthenia, and psychasthenia; manic depressive psychoses, manic and depressive phases; intoxication psychoses, exhaustion psychoses; Korsakoff's psychosis. The pelvic conditions most commonly found were ovarian and uterine neoplasm, the menopause syndrome with its endocrine equation, chronic pyosalpinx, malpositions of uterus with adhesions, and those following gestation and prolonged severe labors. In practically every case, dorsal, lumbar and sacral vertebral lesions were found. To visualize the possible role these lesions play in precipitating pelvic disorder, and indirectly a neurosis or psychosis, it is only necessary to remember that the innervation of the pelvic viscera is from the autonomic nervous system.

Now, although subscribing to the organic etiology of neuroses and psychoses from the standpoint of pelvic pathology, I must from actual clinical experience take cognizance of the psychogenic theory in the production of functional pelvic lesions. To the French school we owe much of its study of psychological mechanisms. In the new approach of this problem, the *Wish* is considered as the unit instead of the *Sensation,* as held by the older psychologists. A well known authority on psychiatry states that psychogenic factors play a large role in gynecological medicine, some gynecologists admitting that from 50 to 75 per cent of the usual difficulties are of such a nature.

Again for illustration, a patient presents herself for examination. The chief complaint is frigidity; physical examination for evident pathology is negative. Early in the history the physician has sensed that it is a problem case; the usual zest for life is absent; the adaptive mechanism is impaired. Upon the degree of this impairment will depend the severity of the neurosis. A neurosis appears as a rule in early adult life. One authority says it is significant that in a general way the mental and nervous disturbances occur at the beginning and end of the sexual periods of life. An abnormal personality has been built up to protect the individual against pain; suddenly it breaks down. Pain here is used to denote an unhappy situation, an emotional problem.

To state that such an emotional condition may arise from a faulty psychosexual development, and that it in turn may precipitate one of the common functional pelvic lesions, may seem questionable. The array of literature emphasizing psychogenic factors plus the clinical data amassed by physicians bears witness to the truth of this statement. In his treatise, "The Art of Living," Paton tells us, "The increasing tendency to mechanize and not humanize our lives, has perverted our emotional and mental development. We soon miss the cadence of the dance of life whereupon we become apprehensive, unstable, self-centered, querulous and often aggressively opposed to those who succeed in keeping both the time and the tune."

Our clinical picture just cited, depicts a neurosis preceding the pelvic condition; obviously our history will be more exhaustive, more analytical. The insight afforded by psychoanalytic knowledge not only justifies but makes imperative its use in diagnosis. The patient is interrogated most painstakingly; she is encouraged to reminisce, as it were, to uncover anything which to her may loom as a mountain. Such disclosures frequently clarify a situation. If above the average in intelligence, the patient, by intuition, may gain insight into her own conduct sufficiently to realize that she is trying to run away from her difficulty instead of facing it. Inquiry shall be made as to the patient's environment, heredity, social or economic maladjustment. Is there a knowledge of conscious conflicts, antagonisms, fears, anxieties? As soon as the patient is imbued with the thought that the physician is sympathetic and understanding and trying to solve her particular problem, she will more readily come to his assistance by revealing known conflicts; in fact, such a history often partakes of the nature of a confession.

Known conflicts having been uncovered by our patient, the physician with special training in analysis will be enabled to delve into the unconscious for conflicts unknown to the patient. According to Freud, our newer conception of this unconscious "conceives it to be a living, motivating, dynamic system of mental processes, constituting the major part of psychic life, capable of independent existence within the individual, and exerting preponderant influence on his behavior."

Treatment here should be directed toward reeducation of the patient. She must be assured that no evidence of organic disease is found; that unconscious mental processes are responsible for her plaint; that repressed impulses have been brought into consciousness which resulted in symptoms. Impoverished internal glands of secretion and structural disturbances should receive appropriate consideration. A brief dissertation on that evanescent condition called "happiness" may be helpful. The word is in common enough use; the thing itself escapes us somehow. In the main our patient is sorely in need of a physician skilled in the art of analysis.

The more common functional conditions resulting from psychogenic factors are frigidity, the congestive and neuralgic dysmenorrheas, pruritis, and vaganismus. Who amongst us has not witnessed a frigidity coming over night, as it were, due to the revelation of a husband's infidelity, even though it be in the nature of a delusion? The administration of sex hormones, which ordinarily would give relief if occasioned by a dysovarism, utterly fail us here. It is up to the physician to relieve the emotional conflict, to iron out the deep seated hostility. What of the congestive dysmenorrheas? Two case reports are given which show the influence of psychogenic factors in this condition.

Case 1—Girl, aged 23 years, with a severe dysmenorrhea received the following treatment over a period of one year: Osteopathic correction of structural abnormali-

ties, replacement of a retroflexion, dilatation of the cervical canal under sacral anesthesia, and endocrine feeding. She was free from pain for two months following the glandular treatment after which she reverted back to her original condition. The patient was referred to a psychiatrist and according to follow-up history has been relieved for two years.

Case 2—Woman, aged 45 years, married, with a history of a stubborn dysmenorrhea over a period of years. Recent symptom was a menorrhagia which did not respond to the usual measures including radium exposure. Hysterectomy was performed, but the patient continued to have regular monthly pain simulating that of her previous periods. Undoubtedly this was of psychogenic origin.

In our quest for the why of the faulty psychosexual development which is the basic cause of disturbance of emotions and behavior, may not an endocrine imbalance give an unfavorable medium for the early moorings of this important psychological mechanism? In searching for etiological factors, our thought naturally turns to the osteopathic concept. What of the birth traumas, even though slight, to the oncoming head? Though not provocative of an organic lesion, the normal cerebral physiology may be disturbed with a resulting interference to the normal mental mechanisms of childhood. Given disturbed function plus poor heredity or bad early environment, is it not reasonable to expect a defective psychosexual development? Statistics being gathered by the Research Department of the Osteopathic Child Study association on childhood injuries and their relation to mental growth and mental problems, should in the future give pertinent information regarding this problem.

In conclusion let us remember that when confronted with a neurosis or psychosis associated with a pelvic disorder, we should elicit information by careful history and examination to decide whether the condition is organic or psychogenic. We should study each case individually, evaluate properly the whole clinical picture, the history, precipitating factors, physical status, mental setting and the general emotional reaction. Then only will the patient have received a comprehensive survey as the basis of scientific treatment. And too, we should be mindful that while all body processes contribute to adaptation of the organism, the nervous system is the final court in the solution of problems of integration and adjustment. Upon this principle is builded the success of osteopathic therapeutics.

521 Mills Bldg.

The Intervertebral Foramen*

H. V. Halladay, D.O.
Des Moines, Iowa

The intervertebral foramen, like the intervertebral disc, is a well known structure, but very little has been written about it. A search of the literature revealed only four men who have written specifically on the subject. Two of these were osteopathic writers, one an M.D. and one a scientist who is not referred to as a doctor. In listing the above, I am leaving out the many references to the intervertebral foramen by various writers in connection with something else.

All textbooks on anatomy mention the foramen. Some descriptions of it give the boundaries. We find that a nerve, an artery, a vein and lymphatics pass through the opening.

The earliest reference of any importance that I have found is a book entitled "The Intervertebral Foramen" by Harold Swanberg[1], published in 1914. In this text the author does not commit himself, but from the statements he makes, it is apparent that he tries to disprove the theory of nerve irritation due to changes occurring within or in the immediate neighborhood of the foramen. In 1915 Swanberg[2] came out with another text entitled "The Intervertebral Foramina in Man." His first text was the result of research on lower animals. In this text he seems to have changed his mind regarding nerve irritation in the foramen and is much broader in his viewpoint.

In 1920 I published a little book entitled "Applied Anatomy of the Spine"[3]. For the first time in published texts, it referred to the variation in the size of the foramen, due to movement of the spine.

In 1924 Alfred Gordon[4] wrote an article in which he took up the foramen in a very serious manner and cited the clinical importance of it in many conditions. If an osteopathic physician had written the article, it might have been less osteopathic than it is.

In 1930 Albert E. Guy[5] wrote several articles for The Journal of the A.O.A. The article in the November number contained some important statements made by Dr. Guy as the result of his reading and observation.

In the order mentioned, I want to quote freely from these authors and hope in this manner to call attention to the significance of the structure and function of the intervertebral foramina.

Swanberg's first book[1] on the foramen has an introductory note written by H. E. Santee, M.D., of Chicago. Dr. Santee says:

> A careful investigation of the intervertebral foramina and their contents is of special interest. Though the field is so limited, it is sufficiently broad to form the anatomic basis for several schools of practice. Mr. Swanberg shows by actual sections the exact relations of the first dorsal nerve at the intervertebral foramen. A study of his work will help to determine whether compression of the nerves at this point is likely to occur; and whether, therefore, there is substantial ground for the doctrine that such com-

*Delivered before the 38th A.O.A. Convention, Wichita, Kans., 1934.

pression is the immediate cause of all or of a considerable number of pathological conditions.

In Swanberg's introduction or preface he says:

Once the normal structure is mastered, the reader will then be in a better position to judge for himself the effects of pathologic changes to these parts, and can formulate his own opinion about nerve pressure, impingement, irritation, etc., as a cause of disease.

In these statements both writers seem to hint that they are offering scientific data that would disprove the concept of spinal irritation as a cause of disease.

In 1915 Swanberg's second book[2] on this subject was published. This also contains an introduction by Dr. Santee, but there is a much more optimistic note present. He says in part:

Mr. Harold Swanberg has enlarged the scope of his contribution to anatomic knowledge by pursuing his investigation to its logical conclusion. His former work, to which I wrote a prefatory note, was done upon the intervertebral foramina of lower animals. That work is fully corroborated and greatly enhanced by the present monograph, which presents an equally careful study of the human intervertebral foramina. In the light of this new knowledge, certain theories of spinal tension and compression must be greatly modified. The undoubted anatomic facts, revealed by Mr. Swanberg in this painstaking, scientific work, necessitate a complete restatement of the rationale of "cures" effected by spinal manipulation.

By comparing Mr. Swanberg's conclusions in the two texts, we find that they differ mainly in two very important items which have been added to the second text. He says:

They [the intervertebral foramina] are dependent to a great extent, as to size, upon the thickness of the intervertebral fibrocartilages and the articular cartilage on the articular processes, especially the former. . . . They are subject to changes in size and shape, depending upon the position of the vertebral column.

In my opinion, Swanberg has done osteopathy a great favor in the publication of these two little texts. To some they may seem to indicate the fallacy of osteopathy, but to me they prove its truth.

In 1917 I started to study the spine in the laboratory. At this time I had the financial support of George A. Still and also the help of a most sincere group of students who worked many extra hours trying to solve the mysteries of spinal movement. In 1919 Asa G. Walmsley came to the laboratory to assist me. Together we worked out the findings that were published in 1920. On page 37 of this text[3] the following statement is made:

The Intervertebral Foramina. Laboratory experiments have brought out some very important facts regarding the movements of the cervical region and corresponding changes in the size of the intervertebral foramina. In the position of flexion, the foramina were found to be largest, in a position of extension, smallest, the difference in size being a decrease of 35 per cent. This also occurred in the rotation and side-bending movement. On the side of the concavity of the curve or on the side where the articular facets were approximated, the foramina were smallest, being the same as in extension. On the opposite side, or on the side where the articular facets were found to be separated, the foramina were the same as in flexion.

The intervertebral [thoracic] foramina vary with the position of the vertebrae. In flexion, the foramen is larger and in extension, smaller. This variation in size is not so marked as during the movements of rotation and side-bending. (Page 61.)

No change is felt in the size of the [lumbar] foramen during the small amount of rotation possible in some few cases. (Page 123.)

Continuing the story and adding to the information, I want to quote from Gordon[4]. It is a long article and well worth quoting completely, but space does not permit. I am beginning with his discussion of the nerve which passes through the foramen.

The seat of this small segment of nerve naturally renders it subject to the influence of the surrounding walls of the cavity. The nerve may become diseased primarily, analogus to the involvement, for example, of the facial nerve within the Fallopian canal in cases of Bell's palsy caused by exposure. It may become involved secondarily in cases of traumatic injuries to the bony structure surrounding it.

When one considers the very close proximity of the apophyseal articulations, the very frequent change of position of individual vertebrae in flexion, extension and other positions of the body, the possibility of a rheumatic, gouty and other toxic changes in the bony tissue, one must expect a pronounced vulnerability of the enclosed nerve, especially when it is not protected by a subarachniod space filled with fluid, such as we find in the roots themselves. This nerve-segment may become involved secondarily to . . . bone and ligaments in all sorts of vertebral affections, such as Pott's disease, cancer, spondylitis of any origin, traumatic lesions, etc.; it may also follow a morbid state of the enclosed adiposocellular tissue in the midst of which the nerve lies. The nerve may be then irritated, compressed, twisted or pulled.

Being the result of union of the motor and sensory roots, any pathological state of the intervertebral nerve will be manifested in motor and sensory phenomena, the latter being more conspicuous than the former.

Pain of a neuralgic character is the chief characteristic. Since the intervertebral nerve contains all the fibers of the sensory root, the distribution of the pain will be radicular in type. Since various special positions of the trunk, such as extension or lateral flexion, narrow down or are apt even to close up the intervertebral foramina, thus producing compression of the nerve, the pain is aggravated by such changes of position. It may be provoked by any sudden jar of the body, such as a violent cough or sneezing which disturbs momentarily the balance of the trunk and consequently modifies the size and shape of the foramen and therefore irritates the nerve.

If the affection occurs in the cervical region, the result will be cervical neuralgia.

In the lower cervical region in which the pathological process affects those intervertebral nerves which concur in the formation of the brachial plexus, the sensory phenomena will be distributed in a strictly radicular manner, mostly along the inner side of the arm, forearm and hand, when the eighth cervical and first dorsal segments are involved. In the latter case there will also be observed acute sympathetic phenomena, namely: enophthalmia, myosis, and narrowness of the palpebral fissure.

The localization of pain here depends upon the number of nerves involved. The nerves emanating from the fourth, fifth and sixth cervical segments will show sensory disturbances on the external side of the upper extremity. It may happen that all the cervicobrachial nerves may be simultaneously involved, but this is a rare occurrence. More frequently only several of them are affected, but it may also happen that only one intervertebral nerve is disturbed.

In the thoracic region the pain will be intercostal in distribution.

In the lumbosacral region the disorder is most frequent. The ordinary and classical sciatica is the result of an intervertebral neuritis. Here again the individual nerves which concur in the formation of the sciatic nerve (fifth lumbar, first and second sacral) may all be involved simultaneously or isolatedly or else only one or two may become affected. The distribution of the pain is radicular in

type and it is particularly marked when the patient changes the sitting to a standing posture.

When the lumbar foramina alone are affected, the pain will be distributed in the domain of the crural and obturator nerves or in the case of a higher lumbar involvement (first and second lumbar) the area of innervation by the femoral cutaneous nerve will be painful. In the persistent forms of lumbago in which there are no primary osseous or ligamentous lesions, but in which we find contracture of the lumbar muscles, kyphosis and the sensory disturbances described on the previous pages, there is only hypertrophy of the cellular tissue within the intervertebral foramina and the lumbago is due to bilateral epidural irritation of the enclosed nerve trunks.

Pain is not the only sensory disorder present in intervertebral neuritis. All forms and variations of paresthesia may accompany pain. Numbness, tingling, coldness and warmth are the other subjective manifestations.

As to the objective sensory disturbances, hyperesthesia to all forms of superficial and deep sensibilities is frequent. In some cases of sciatica, hyperesthesia and hyperalgesia are present at the same time. Similar to the symptom-pain, the distribution of the objective sensory disorder is also of a radicular type.

Motor disturbances are to be expected in cases of involvement of the intervertebral nerves in view of the combined composition of fibers coming from both roots, but they are less frequent and less pronounced than are the sensory phenomena. They are: hypotonia, a slight paretic state of the flaccid variety and muscular atrophy. As to the tendon reflexes, they are usually exaggerated, especially in the initial stage of the neuritis during the irritative period. Later, however, during the degenerative stage of the nerve, the reflexes become diminished.

One more reference and I will sum up the information to date on the clinical aspect of the intervertebral foramen. Albert E. Guy[5] has a very comprehensive paragraph in his article which reads as follows:

Contents of the Duct.—Within the duct are: (1) The radial nerve, formed by the apposition of sensory and motor nerve fibers, and sheathed in extensions of the meningeal membranes; (2) the terminal strands of the posterior root at their union with the ganglion, the ganglion itself and the strands of the anterior root; all these structures have meningeal sheathings; (3) the spinal artery; (4) at least one spinal vein, sometimes several, draining the blood from the cord and the nerve roots, from the meninges, from the ligaments and other supporting tissues, from numerous and extensive plexuses; (5) venous plexuses; (6) lymphatic vessels; (7) loose epidural supporting tissue; (8) an epidural sheath surrounding (7); (9) a fibroadipous mass filling the annular space between the epidural sheath and the periosteum lining the duct; (10) the nerve of Luschka, or N. sinu vertebral, or N. recurrent meningeal.

All of the above quotations were selected because of their importance from a clinical standpoint. It will be well also to review the anatomy briefly.

Of the thirty-one pairs of nerves associated with the spinal canal, twenty-three pass through intervertebral foramina. The rest, which include the first and second cervical nerves and the nerves in the sacral and coccygeal regions, leave the spinal cord through other structures.

The boundaries of the foramen typically consist of pedicles above and below, the body of the upper vertebra and the intervertebral disc anteriorly, and articular processes with the capsule of the spinal diarthrodial joint posteriorly. In the thoracic region from the second to the ninth segments, inclusive, the head of the rib is added.

Swanberg contributed a number of important facts. He found that the nerve is much smaller than the foramen, that it is located in the upper part of the foramen and surrounded by a considerable quantity of fat. In this fat he described the various structures listed in the quotation from Dr. Guy. He mentioned the possibility of change in the size of the foramen if the disc or the articular cartilages should become altered in any way. He did not say what the possible effect might be on the nerve, leaving this to the judgment of the reader. He proved that the foramen is filled, and since we do not find wasted spaces anywhere in the body, it might be presumed that if the foramen is variable in size, the contents would be under greater pressure when it is smaller, than at other times. Swanberg also described supporting fibrous tissue crossing the foramen in every direction. The tension on this tissue would be increased when the foramen enlarges. Hence in either change there is ample opportunity for irritation to structures passing through the foramen.

We may draw this conclusion: Movements of the spine tend to influence the activity of the spinal nerves emerging from the spinal canal through the intervertebral foramina. With that in mind, I wonder whether we have had success in many cases by simply moving the spine through its normal range of motion rather than by the correction of lesions. This is something to argue about. I am not denying the presence of lesions, because I know from laboratory experiments that they occur, but I also know that I have carefully examined patients and have found no marked lesions, yet symptoms were present and disappeared following treatment applied to the spine.

The work done in our own laboratory in 1920 resulted in the publication of data relative to the change in size of the intervertebral foramina in the various movements of the spinal column and the variations occurring in each region. The reader was left to draw his own conclusions from the facts given.

Gordon has made extensive studies from a clinical standpoint, and his findings bear out conclusions that have been recognized in osteopathic practice. To me it is heartening to have someone else say those things that we have been saying for many years.

Guy carefully listed the structures passing through the foramen. Each is important, otherwise it would not be there. It is well for us to keep this list in mind when we are thinking about this subject. Changes in the intervertebral foramen may influence the nerve, but there are also vascular tissues that may be disturbed. The purpose of these is to conduct fluid to or from the spinal canal. They may be compressed and the flow diminished or stopped. Fluids remaining stagnant anywhere in the body produce disease; consequently compression of a spinal artery, vein or lymph vessel will produce changes that are detrimental to the region supplied or drained.

Fibrous tissue may be torn by trauma. During repair it becomes thicker and more dense. This can

occur within the foramen following severe strains to the spinal articulations. It must be remembered that the intervertebral disc and the capsule of the diarthrodial joint each aids in forming the boundaries of the foramen.

The most important conclusion to be gleaned from this paper is the following:

The thoracolumbar division of the involuntary nervous system emerges from the spinal canal with the nerves extending from the second dorsal to the third lumbar inclusive. These nerves pass through foramina that change in size with every movement of the spinal column. These nerves control most of the involuntary functions of the body. Therefore, we must work to keep the intervertebral foramina in this region as nearly normal as possible.

722 Sixth Ave.

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Effects of Vertebral Lesions: Experimental and Clinical*

LOUISA BURNS, M.S., D.O
South Pasadena, Calif.

PART I

This report is based upon a comparison of experimental and clinical findings with reference to the effects of vertebral and other bony lesions. Reports from six experimental laboratories, fourteen osteopathic clinics, fifty-six osteopathic physicians now in practice, and all available published records from early osteopathic literature, were brought together and coördinated. Reports which seemed to be contradictory often were found to be so only because different phraseology was employed; such reports were easily harmonized by reference to the context or by a few questions to authors. Ideal reports are not available; it is possible only to collect and preserve such useful information as can be found in the material at hand, in the hope that further studies may be encouraged and more useful records collected.

Early clinical records were compared with later findings; inasmuch as both groups are based upon anatomical and physiological facts, the unanimity of the findings is limited only by the accuracy and the keenness of the observers.

It is earnestly requested that osteopathic physicians in all fields of activity compare these findings with their own experiences, and that the results of this comparison be reported to the writer. Factors of difference and factors of agreement are equally welcome. This is a search for actual facts of observation and experiment. In both clinical and laboratory reports, all available pertinent facts should be included, but no report need be omitted for the lack of details. Unless it is requested that names be withheld, credit will be given to those osteopathic physicians who contribute records. Identity of patients is protected.

*Amplification of paper delivered at the 38th A.O.A. Convention, Wichita, Kans., 1934.

The effects produced by vertebral lesions include several uniform factors. These have been studied by palpation and by x-ray films in living human subjects; by autopsy in a few cases in which this examination could be made very shortly after death, in human cases; by palpation and x-ray films of the tissues of living animals with accidental, experimental or secondary lesions; by autopsies of animals immediately after death.

Within two days, at most, after a lesion has been produced, the deep spinal muscles of the spinal segment of the lesioned vertebra become subject to certain pathological changes. Contraction of these muscles is the earliest perceptible phenomenon. This contraction differs from normal contraction of the same muscles in being rather irregular in quality. Instead of the normal contraction (which seems, in these muscles, to be a uniform increase in the normal muscular tone) the contractions due to vertebral lesions affect certain groups of fibers and certain very small muscles more definitely than other groups of fibers, or other very small muscles of the same segment. This condition is palpable in human and in animal subjects, and is demonstrable in tissues from animals recently dead by the use of certain stains and by the immediate microscopic examination of frozen sections.

Contractions of these muscles, so produced, do not disappear, but remain palpable as long as the lesions remain present.

The term "contracture" has been applied by certain authors to a condition of the muscle fiber associated with a hardening of the muscle substance as in rigor mortis, but less marked in degree

Chart Showing Comparison of Experimental Effects and Clinical Findings with Reference to Vertebral Lesions.

EXPERIMENTAL EFFECTS Reported From Six Laboratories	BONES CONCERNED	CLINICAL FINDINGS Reported From Fourteen Clinics and Fifty-six Osteopathic Physicians
Contraction of deep spinal muscles. **Congestion** of deep spinal muscles, with edema, minute hemorrhages, rigor; later fibrosis and atrophy. **Congestion** of tissues affected by lesion, with edema, minute hemorrhages, cell degeneration; varying, often alternating functional changes; later fibrosis and atrophy. Further study needed to determine time relations; areas affected; other factors of interest.	ANY VERTEBRA	**Contraction** of deep spinal muscles. **Congestion** of deep spinal muscles, with edema, minute hemorrhages, rigor; later fibrosis and atrophy. **Congestion** of tissues affected by lesion, recurring inflammation with causes apparently negligible; varying, often alternating functional changes; edema, minute hemorrhages, cell degeneration; later fibrosis and atrophy. Further study needed to determine time relations; areas affected; other factors of interest.

and due to diminished alkalinity, fatigue, circulatory disturbances and other pathological conditions not incompatible with recovery. Such a condition is associated with continued contraction of the muscles, and this also is demonstrable in the deeper spinal muscles associated with vertebral lesions. On palpation, muscles affected by this form of contracture show a peculiar quality not easily describable. They seem to be somewhat hardened, yet they do not present the harsh quality noted in muscles having an overgrowth of connective tissue. They seem doughy, or putty-like, yet they are not apparently turgid, as in muscles which are edematous, nor do they display the slight increase in size noticed in edematous muscles. There is a palpable lack of elasticity, resiliency and vitality, thus somewhat resembling muscles affected by rigor mortis in early stages, yet these qualities are much less pronounced in the living than in the dead muscle fibers. The term "contracture" is so commonly applied to the condition in which an overgrowth of connective tissue has occurred that it is hardly practicable to employ it for muscles affected by this peculiar form of hardening. The term "rigor" carries an implication of "mortis" which is undesirable in the discussion of tissues which are living and for which recovery is to be expected. Since this hardening is associated with abnormal contractions of muscles and with circulatory disturbances, probably the simplest manner to avoid confusion is to omit a specific name for the condition, but to keep in mind that the abnormal state of the deeper spinal muscles, affected by vertebral lesions, includes irregular and abnormal contractions of the muscle fibers and also this hardening or rigor-like quality which gives these muscles their characteristic "feel."†

Disturbances in the circulation may, and probably do, precede the abnormal contractions and the hardening of the deep spinal muscles. However, definite congestion has not yet been found visible until after the functional changes mentioned are perceptible by palpation and by the examination of autopsy tissues. Congestion has not been reported apart from edema; congestion and edema seem to be almost or quite inseparable in the tissues affected by vertebral lesions, though one or the other may, at times, be relatively more pronounced, or more easily perceptible, than the other. Minute hemorrhages per diapedesin have been found in these congested muscles, in small animals, within two days after an experimental lesion has been produced, or after an accidental lesion of known cause has occurred. So long as the lesion remains present, there remains a certain degree of congestion of the affected muscles, with at least some degree of edema. Occasional petechial hemorrhages occur, so that at any time after the first few days following the production of a lesion, it is possible to find hemorrhagic areas in all stages of coagulation, digestion, absorption or organization of the minute coagula, in the deep spinal muscles of the lesioned segment.

Palpation of muscles affected by vertebral lesions, in which congestion, edema and hemorrhages are present, causes varying degrees of pain. This state of the muscle is responsible for the complaints which patients utter, saying the pain is "like a boil" or "like toothache," "like touching a nerve" or "as if something cut the flesh" and so on.

Experimentally, it has been found that even gentle manipulations of tissues in this condition increase the size and the frequency of the hemorrhages within the muscle substance. It may be concluded, with a fair degree of logic, that attempts to secure relaxation of tissues which are unusually painful should not include even gentle manipulations. In animals, the correction of lesions directly, without previous manipulation of the affected tissues, produced the speediest relief from both local and visceral pathological states. This fact should not be applied to human tissues without due consideration, but if it should be found that such immediate correction of lesions gives speedier relief from symptoms, then those physicians who employ considerable energy in relaxation treatment, and also their patients, may be saved a very considerable amount of time, discomfort and wasted energy.

Fibrosis is first reported at the sites of organized hemorrhagic areas, in muscles from lesioned ani-

†For clinical elucidation, differentiation should be made between this condition on the one hand, and on the other, physiological contracture, pathological contracture, reflex contraction and toxic conditions.

mals. No adequate studies of human muscles have been reported, showing the earliest fibrotic changes. As the hyperplasia of connective tissue fibers progresses, the muscle fibers undergo atrophy which appears to be due in part to the pressure of the fibrotic tissues, and in part to the circulatory changes, edema and rigor which have been mentioned. Further study is necessary before the time relations of these changes are well understood. Fibrotic muscles are recognizable on palpation by the harsh, inert, inelastic, and non-reactive qualities presented by fibrotic tissues or scars anywhere in the body.

The changes in the joint tissues affected by lesions have been studied in animals, but no report of studies of human joints so affected has been found.

The synovial fluid of the affected joints have been found to show a deeper tinge than normal fluid, and on microscopic examination, blood cells in varying degrees of dissolution were found. (It is evident that blood cells accidentally gaining entrance into the fluid when the capsule is cut would be as nearly perfect as are blood cells found elsewhere in injured tissues.) Synovial fluids of joints recently lesioned have shown some slight increase in quantity; joints which have been lesioned for several years have shown synovial fluid diminished in some degree. No study of the time relations of these changes has been reported.

Certain points of similarity have been reported in nearly all tissues affected by vertebral lesions. Usually the first visible changes are circulatory. This fact recalls certain statements made by Dr. Still, often quoted in osteopathic writings.

After certain changes in color, apparently due to fluctuations in the vasomotor control, a slight, slowly increasing congestion remains present. No report of viscera in which this congestion has disappeared has been found, except that in a very few instances in the final stage of fibrosis the blood vessels have been found partially occluded.

While it seems possible that lesions may affect certain tissues without first affecting the circulation, no such instances have yet been described in published reports. Cases have been described in which no mention has been made of the circulatory conditions.

With persistent congestion, the blood vessels of the affected viscus lack the normal peripheral layer of blood plasma. Blood cells crowd the vessels, lie in close contact with the endothelium and finally pass through the capillary walls into the perivascular tissue spaces. Each hemorrhage per diapedesin persists, apparently, until coagulation of the extruded blood occurs. Further processes of fibrinolysis, digestion and absorption may remove the clot, leaving, for a time, a faint stain due to the pigments derived from the hemoglobin. Fibrinolysis and digestion may not occur, the clot may become organized and a minute mass of connective tissue remain. These processes have been described in detail in reports from the laboratories of The A. T. Still Research Institute. The different stages have been mentioned in reports of autopsy examinations and the palpation of abnormal tissues in human subjects.

Associated with visceral congestion, some degree of edema is usually present. A slight lowering of the alkalinity probably always accompanies circulatory disturbances or edema, though this is not usually demonstrable in human tissues. Cell degeneration inevitably follows prolonged circulatory disturbances; in tissues affected by lesions the stages described include cloudy swelling, granular and fatty degeneration in the order mentioned. Cellular edema has been described in a few instances (this condition can be visualized only by certain methods of technic).

Changes in function are associated with these changes in tissue structure. In many clinic reports the changes in function are the only data accessible. In certain viscera functional changes due to vertebral or costal lesions vary considerably, and, indeed, many clinic reports give symptoms apparently opposite which are said to be due to lesions apparently identical, so far as human experience can determine. In many cases, alternations in degree and even in kind of effects apparently due to lesions are reported for the same individual. Such reports seem very confusing. However, it must be remembered that the adaptive and the recuperative powers of living organisms are profoundly efficient; that certain organs and certain nerve systems may compensate for one another; that many pathological changes occurring in tissues are themselves steps tending toward ultimate recovery, and that secondary lesions often follow primary lesions, bringing in train new symptoms, tissue changes and adaptive mechanisms. When the human subject, attempting to relieve the symptoms due to bony lesions by changes in diet, habits and even drugs, add to these inevitable complexities, the ultimate case report must be rather difficult to understand.

When all available case reports have been compared, and these findings compared with the reports from research laboratories, it may safely be concluded that varying, often alternating, functional changes may be relieved, if degeneration has not involved too great an amount of tissue, by correction of the lesion. In other words, exact understanding of pathogenesis is not always essential to fairly satisfactory therapeutic efficiency; very fortunately for our patients. An understanding of pathogenesis is, however, essential to ideal therapeutic efficiency, which is the reason for prolonged and earnest study of osteopathy in every available field of research work.

In human subjects, later pathological changes may be due to added etiological factors. The viscera affected by lesions have been found more easily injured by other pathogenetic factors. Infections, ordinarily harmless to the individual and constantly harmless to others of his family and friends, very often cause disease, when some tissue affected by vertebral lesions happens to be invaded. This relationship has been reported, frequently, in osteopathic periodicals and books, and in reports from osteopathic clinics and physicians in practice.

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"GENERAL BODILY COORDINATION"

In this number of THE JOURNAL, Carl P. McConnell begins a series of editorials on the general subject of "Nonspinal Osteopathic Lesions," following up the uncompleted series which began in THE JOURNAL for March and April, 1933. The first of those editorials considered nonspinal joint lesions and the second osteopathic lesions apart from joints. It has been our constant desire to go forward with the line of thought begun in those editorials, and we are glad to be able to do that now. Dr. McConnell would have us keep in mind what he refers to as "general bodily coördination."

There are other articles in this number of THE JOURNAL, of particular interest in this connection.

Charles Hazzard takes as a text Wallace M. Pearson's remark that "the osteopathic problem is to keep the blood vessels nourished properly." Dr. Hazzard emphasizes the importance of the condition not only of blood vessel walls but also of cell walls and says that "we may, by osteopathic means, affect them physically, mechanically, electrically, chemically, etc."

In this number, too, H. Virgil Halladay calls attention to a much neglected essential in "general bodily coördination"—namely, the intervertebral foramen.

It is surprising to note how little there is about the foramen in published works on osteopathic principles, diagnosis and technic. Writers on those subjects have dwelt upon spinous and transverse processes, articular facets and other parts of the vertebra, and upon the intervertebral disc, when, as a matter of fact, much of the damage done by the osteopathic spinal lesion has its effects in and about the foramen. These writers have discussed the stress and strain on the ligaments and the muscles about the joints, but too seldom on the structures within the foramen.

One need not agree fully with all of Dr. Halladay's conclusions. One may consider that the normal variability of human tissues will provide for all of the stretch when the foramen is at its maximum size and all of the pressure when it is at its least caliber. One may feel that with a joint in flexion, no possible harm can come from any stretching of the fibers within the foramen, and likewise with a joint in normal extension, no deleterious pressure will affect the interforaminal structures. Yet, the facts remain that something happens in and about the foramen when there is a spinal joint lesion and that more study should be given to this part in a consideration of "general bodily coördination."

It is hoped not only that Dr. McConnell's series of editorials will reawaken many in the profession to a consideration of the importance of nonspinal osteopathic lesions, but also that THE JOURNAL may continue to provide much that will be of value in a study of the body as a complete organism.

NONSPINAL OSTEOPATHIC LESIONS—I

Recently R. C. McCaughan and Ray G. Hulburt contributed two highly important editorials* which, in my opinion, should awaken considerable interest on the part of clinicians. The nonspinal lesion is not only of invaluable import from the standpoint of actual every day results, but its interpretation materially assists one in obtaining a deeper insight into the biologic meaning of the osteopathic concept.

This type of disorder accentuates the setting of the osteopathic lesion in its relationship to the body as an organism rather than as a machine. It clearly shows that there is something far more to organism than mere mechanism.

In attaining to greater mastery of osteopathic art, the "feeling touch" is a complement of the "seeing eye." And the feel of tissue should not be confined or limited to certain regions of the body. In other words, it is the whole organism, its unified activeness, that should, always, demand consideration. In recent years, the foot has received no little attention, which is fairly illustrative, in one aspect, of the above.

Departmental instruction, although seemingly necessary, creates an almost Frankenstein situation, or several of them, which neutralizes largely in practice, one of the most important principles of biology, namely, general bodily coördination. If this principle is lost sight of, as it often is, the vehicle of its function, the whole anatomicophysiological, is not fully investigated.

To offer one of a thousand possible illustrations of a nonspinal lesion, which still makes a fairly complete picture, take herpes labialis. Here is exemplified a pathology that strikingly exhibits the fact that the law of a part is no different from the law of the whole. Pressure on nerve fibers emerging from the mental, or from the infraorbital,

* Nonspinal Osteopathic Lesions. Jour. Am. Osteo. Assn., 1933 (March, p. 278 and April, p. 315).

foramen (soft tissue pressure), will cause the condition. It is not necessary, as is true in some of these cases, that there should previously be a ganglionic upset, but only that fibers of the cable be mechanically compressed.

And what, in due time, is the result? A rather complete pathologic picture, particularly as pertains to the laws of "general" pathology. Vasomotor derangement, diapedesis, edema, lessened local alkalinity, cloudy swelling, beginning atrophy, fibrin formation, etc.—an entire gamut of pathological processes, which may be greatly complicated by digestive derangements and infections.

But the great fact remains: Osteopathic pathology is. And it is demonstrable both by methods peculiar to osteopathic physicians and by those used in pathological laboratories.

A modicum of anatomical study and clinical investigation will reveal that there is tenderness, tenseness and congestion over one of the foramina mentioned above, in exact accord to the area structurally involved. Furthermore, no great skill is required in order to obtain results—only light manipulation and accuracy of application (every few hours) wherein even the patient can be instructed. Of course, quick results depend on early treatment. And there are cases complicated by other factors. But these do not abrogate the law of basic osteopathic pathology.

Having the patient open the jaw against resistance (the doctor's thumbs over the bridge of the nose and fingers hooked around the jaw) will supplement the manipulation mentioned above, in restoring both ganglionic and muscular normalization. Likewise grasping the patient's chin, while he slightly opens the mouth, and laterally freeing joint motion has both structural and stimulating effects.

The above treatment is effective in all cases, but especially notable in the early uncomplicated ones. However, the special point to be made here, in the citing of a comparatively simple instance of a pathologic lesion, is to stress the very real fact of osteopathic pathogenesis, and that the facts of osteopathic diagnosis and prognosis, no less than osteopathic therapy, are aspects or facets of general laws embodying the osteopathic concept.

The reader may say that the citation is almost ridiculously simple. Well, it is. It is an A-B-C problem. All general laws are simple enough if we understand them. But to understand them in actual practice carries the added measure of a skilled art, without which the facts are of little moment. A little later it will be seen that in order for every part of the organism to be given an opportunity to bring forth its quota or contribution, a challenge to a high degree of art is demanded.

CARL P. MCCONNELL.

THE QUESTION WHY

Speaking of leaders in civilization, Crile says:

"We believe that there is a background in which these achievements grow and develop, and that background is a development of the commanding brain, of the thyroid gland and of the adrenal sympathetic nervous system which commands the energy which characterizes civilized man as compared with the lower orders of man.

"In some of the individuals in the group of which we are speaking there comes a time when there is an excessive activation, and in one individual this excessive drive—the pathological physiology of this adrenal sympathetic nervous system —will cause a thyroid to become hyperplastic so that exophthalmic goiter develops; in another case with an equal drive there will be such an interference with the control of the stomach and with the pyloric sphincter that a peptic ulcer will develop. Again there will be those in whom no one gland breaks down, but they are in a state of very high efficiency at times which will result in great activity followed by a sudden collapse in activity. The excitation and fatigue will alternate. This condition is called neurocirculatory asthenia.

"Again there is another group of these individuals who have diabetes. In such cases the excessive drive has acted against the pancreas producing an exhaustion of the gland with resultant diabetes".

There is no question but that, essentially, everything mentioned in the above quotation is true. It is also interesting. It was listened to with interest by the cream of the medical and surgical talent of the country. Theoretically, it was accepted as the gospel of the immediate future. It has transferred the scene of combat from the thyroid gland, the stomach and the pancreas to the adrenal glands. This change was necessitated by the knowledge that an unknown cause, a hidden influence, was actuating these structures into an abnormal state of activity, which in so many instances accepted surgical interference influenced only temporarily. It was a vain attempt to answer the question "why".

Why, in any given individual, when his adrenals are whipped into a state of "excessive activity" is the thyroid caused to become hyperplastic while his stomach and pancreas remain immune?

Why is this selective action manifested? Why do not the stomach and pancreas participate in the mad scramble of over activity along with the thyroid? Upon reading the article through, one finds no hint that will even suggest the answer to the question "why". Not only that, but one is convinced that under present concepts, allopathic medicine and surgery cannot answer it. They are groping

in the dark, vainly seeking the solution of the problem.

In order to be vulnerable, a structure must be below par. It must assume the characteristics of a point of low resistance. Under such conditions the selective action of over active adrenals becomes explainable. It assumes its place in the logical sequence of events.

Why can not the masters of medicine and surgery answer this question? Why do the pathologists and the research men steeped with medical ideals fail to solve the problem? Why are they allowed, like Moses of old, to look over into the promised land and yet be denied the privilege of entering it?

The answer is that they have failed to provide themselves with the key which alone will unlock the puzzle, i.e., the osteopathic concept of the lesion.

GEORGE J. CONLEY.

FAITH AND ARTHRITIS

THE JOURNAL this month contains an account of a visit to the famous Locke foot clinic, by one who for many years has studied not only human feet, but also the rest of the human organism. His observations bear out those reported to us over the entire period of excitement connected with the work of the foot-twister.

Nearly three years ago a well-known osteopathic physician and writer who knows feet, reported:

"My opinion is that Dr. Locke is running as pretty a faith-healing racket as it has been my pleasure to see in many a year. Going on the testimony of over 100 persons who have seen both Dr. Locke and Douglas work, my conclusion is that neither one of them do anything of physiologic or anatomic value to the feet of the people they treat. But they have developed an atmosphere of fanatic and fantastic faith around the place that is literally startling. And Dr. Locke and his nephew are very smart in one thing. Neither of them will discuss their work. They keep their mouths shut and all comers are allowed to draw whatever conclusions they will. Which, in the presence of a continual flux of favorable mob-psychology and some very clever press agenting is not only wisest, but extremely profitable."

A year later he reported:

"I went back to Williamsburg and found a Locke family maid now giving treatments to the arms, neck, and shoulders. There are two or three other individuals, whose training is questionable, concerned with this work. . . . "

At the December, 1932, meeting of the Executive Committee of the American Osteopathic Association, the Editor reported:

"We have been importuned by public relations committees (not our own official committee) and others to give publicity in THE JOURNAL, THE FORUM OF OSTEOPATHY, THE OSTEOPATHIC MAGAZINE and newspapers to the M.D., Locke, who has achieved such notoriety in Canada.

"We have preferred to give Locke no favorable publicity for the following reasons:

"It is our opinion that many of the cases treated are neurasthenic and many of the pains supposed to be arthritic or rheumatic are merely such as an osteopathic physician would naturally and correctly ascribe to mechanical results of bad feet.

"We believe that such general manipulation as is given at Locke's clinic is provided by those who are not trained, qualified or competent. We do not believe that he has anything better than osteopathy has long provided, and we feel that our attempt to take advantage of the publicity he has achieved, would simply give the impression that our own people, with the fifty years' history of osteopathy behind them, have failed to do what this M.D. has been able to accomplish without special training."

In THE FORUM OF OSTEOPATHY for February, 1934, the Editor said:

"There is a doctor in Canada who may have treated many neurasthenics and who may have brought relief to sufferers supposed to be victims of arthritis or rheumatism who merely had such pains as an osteopathic physician would naturally and correctly ascribe to mechanical results of bad feet. Whatever his achievement may have been and however good his foot technic, there can be no question of the effectiveness of the technic by which a newspaper man was started writing in the newspapers, a magazine writer started in the magazines, and a syndicate writer in the syndicates. Whether he has yet reached the motion picture world, the reviewer is not certain, but statements . . . made might lead to the impression that he soon will be there."

Our understanding is that he has arrived there.

For once we find ourselves in quite full agreement with an editorial in *The Journal of the American Medical Association*, which, on October 13, said:

"It should be obvious to any one that what Locke does is . . . much less than what osteopathy does."

THE EDUCATIONAL CONVOCATION

One of the really important gatherings at the Wichita convention last July was the educational convocation. Sponsored by John E. Rogers, acting in his capacity of Chairman of the Bureau of Professional Education and Colleges, it was attended by representatives of the various divisional societies appointed by their respective divisional presidents, by the official family of the Association, and

by representatives of the various approved osteopathic colleges.

Designed to bring to the attention of a representative group the present status of osteopathic education, the program announced fitted perfectly.

Papers were read by Arthur D. Becker of Kirksville, E. O. Holden of Philadelphia, and W. W. W. Pritchard of Los Angeles. One of the papers, that by Dr. Becker, appeared in THE JOURNAL for October, 1934. Dr. Pritchard's paper is published this month and Dr. Holden's will follow. All are commended to the attention of every member of the profession.

The profession is apparently very much interested in osteopathic educational facilities and in the personnel of the student body. This is as it should be, but many inaccurate and unjustifiable impressions are frequently expressed upon the subject. Most of us are likely to reach a conclusion on the basis of a minimum of information. Because one or two, or even three, comparatively new graduates are inadequate technicians or because a few turn out to be little more than old-school imitators, the man in the field too often reaches the quick conclusion that all recent graduates have failed to learn osteopathic technic. Because the occasional beginner, looking longingly at the lucrative surgical practice of his neighbor, sometimes (probably very rarely) leaps headlong into indiscriminate surgical activity, the hasty believe that undergraduate instruction has pushed the whole student body in that direction.

With a full realization of the mass of misinformation which floats upon the surface of many osteopathic arguments, the educational convocation was called. Each divisional society representative in attendance was asked to present his impressions to the next succeeding convention in his own state or province. Many have already done so and others have been requested by divisional society program chairmen to take a place on convention programs in the future.

To comment at length upon the papers offered would be superfluous. There were many and instant requests that the three papers be published. While they had not been written with the idea of publication, still the subject matter and its handling by well informed authors has produced three papers, along entirely different lines, of a caliber which the members of the Association will appreciate.

Arrangements are already under way for a similar educational convocation at Cleveland next July. More details of the educational institutions will be painted into the picture. Next year those appearing on the program will be able to point with pride to increased enrollments, to advances in availability of postgraduate work. The picture should be brighter, the detail more perfect.

R. C. Mc.

HOSPITAL INSURANCE

The trend of allopathic sentiment as it relates to schemes for hospital insurance is well outlined on page 141 of this number of THE JOURNAL, by Edgar O. Holden, who has been for some years superintendent of one of the leading osteopathic hospitals in the country and who is president of the recently organized Associated Hospitals of Osteopathy and a Trustee and Chairman of the Bureau of Hospitals of the American Osteopathic Association. He writes with authority.

SELF-SUFFICIENT

This month THE JOURNAL tells of the action of osteopathic members of the American College of Proctology in withdrawing from that body.

The American Osteopathic Society of Proctology has for some years been providing satisfactory service to osteopathic specialists in that line, and since its members have taken such a prominent part in the work of the College, as shown by its published programs and its Transactions, it would seem to the advantage of all concerned, within our profession, for the osteopathic members who did not attend the Chicago meeting to back up their colleagues by making the resignations unanimous just as soon as possible, and then throwing all their efforts behind the Cleveland meeting.

This is not the sentiment of those guiding the destinies of the American College of Proctology, as indicated by the editorial report of the convention in the October number of its *Journal*, from which we quote:

"While the adoption of this article (requiring that all future new members be practicing M.D.'s) caused temporary consternation, it seems a unanimous hope that none of the present Fellows or Members would submit his resignation, and if so only after he has given it due and calm consideration. If after full and impassionate reflection on this revised article, any Fellow or Member firmly believes it to his best personal interest to resign, he must submit to the Secretary his written resignation which will then be referred to the membership committee for action."

RENEWAL OF MEMBERSHIP

One hundred twenty-five names are on the roll in this month's JOURNAL—the monthly roll of new names of those who are proud to be a part of the American Osteopathic Association and whose names were not in the 1934 Directory. About one in five of these are recently licensed new graduates, leaving a hundred other doctors, already in practice, who are aligning themselves with the national Association. This is the largest number of names added to the list in one month in a long time.

Some of these doctors have never personally experienced the advantages and joys of affiliation with the American Osteopathic Association. To these go

heartiest greetings and congratulations because they are coming into more benefits than they now can fully realize.

There are others who have been members, some of them for a long time, and after a temporary absence are in the family again. To these go equally hearty good wishes and congratulations because of the pleasurable anticipations with which they come back to advantages of which they already know through experience, and new benefits added as the Association progresses.

The old friends are coming back with mixed emotions. Occasionally one objects to having his name published as an applicant for membership, declaring that he has been a member in heart and soul and spirit for a good part of a lifetime, even though for a while it has been physically impossible to pay dues and thus receive the material benefits. Occasionally one feels that the publication of his name would simply advertise him to his colleagues as an unfortunate trying to come back into the fold after having been crowded out by financial misfortune.

These thoughts present a real problem. Those who are administering the affairs of the Association are bound by its Constitution and By-laws, which are very specific in saying:

> A member whose dues shall remain unpaid. . . . may be reinstated before the expiration of six months by payment of his dues.

It is clear that a member cannot be reinstated except by payment of dues for the entire period, and he cannot be reinstated after December 1 of the year in which membership lapsed. After that time the Secretary of the Association has no discretion but is directed by the fundamental rules of the organization which say:

> An applicant for membership shall. . . . make application upon the prescribed form with the endorsement of the secretary of the divisional society in which the applicant resides. The name of the applicant shall be published in THE JOURNAL.

It is commendable in one to feel that when he has been admitted to membership, only death can take it from him. But that ideal is not compatible with conditions as they are.

Many join as a temporary thing, either because of attractive prices at time of graduation, or in order to attend a national Convention, or as a result of a bit of enthusiasm, and then after a year or two permit membership to lapse. Many allow some petty, personal thing or some real or fancied injustice to influence their better judgment and terminate what should be a lifelong affiliation.

The idealist who believes in the motto, "Once a member, always a member", must recognize the unpleasant facts and know that the rules of the organization must be made, not for such as he, but for the general run of humanity.

Times change. Individuals also change—for better or for worse.

Some members of the Association go downhill and are subject to discipline. Every year some few who have been members must have their membership terminated by vote of the Trustees. It is a privilege of the overwhelming majority of those who belong to the Association to have their own professional good names safeguarded in this way.

Also among those who have been members and who are no longer in the Association there are some few who have been wandering in devious ways so that they would no longer be welcome within the group. In fact, some of them strive to get back so that their membership may serve as a cloak to cover their wrongdoings. Every member in the Association is entitled to the protection which the By-laws give him by their requirement that such a person shall make application in the regular way and shall tell the osteopathic world, through THE JOURNAL, that he is seeking to be one of us. It makes it possible for objection to be registered against him and does not jeopardize the legitimate applicant. One who has been a member for years and has been temporarily out should be glad of the fact that in letting him in, such care is taken to guarantee that in his entrance he will not be accompanied by undesirables.

Publication of names is not a matter of having a name voted on by the Trustees or anyone else. It is merely a safeguarding of the interests of the profession and the Association.

The "Once a member, always a member" sentiment is most commendable. Those who take that attitude suffer keenly the deprivation of the fellowship when they must be temporarily outside the fold. Some of them feel it so keenly that when they receive invitations to "join" the Association, or to "apply for membership", they are incensed, and indignantly throw away the invitation. They do not know that in these times of stress the Central office has installed a special membership department to give as much particular and personal attention as possible to every individual case. Yet it would be a waste of valuable time and money—effort which could be turned to more constructive ends—to pick out from among those who have not paid their dues, the names of all who did pay in other years, and send them a special form, asking them to "renew" their membership instead of asking them to "apply for" membership. And so all who are not now in the dues-paying group receive the same type of invitation.

The rules requiring a signed application cannot be changed by the Central office. They ought not to be changed, for they are wise. The same is true of the rule requiring publication. But there would seem to be no reason why applications should not be designated as "renewals" and so published in THE JOURNAL.

You, who are a member: Do you know those who are temporarily out of touch with the organization who would welcome an opportunity to "renew their membership"? Tell them they are needed, and that with their names, when published, will go the words, "Renewal of Membership."

Department of Professional Affairs

JOHN E. ROGERS
Chairman
Oshkosh, Wis.

BUREAU OF PROFESSIONAL DEVELOPMENT

ARTHUR E. ALLEN
Chairman
Minneapolis

EXHIBITS

The purpose of an exhibit is either to sell an idea or to arouse interest in the subject exhibited. In order to accomplish its purpose, an exhibit must not only stop the passerby, but must also hold him until the entire story is told.

Exhibits may be divided into two types: (1) The static or motionless, and (2) the animated or moving. These two general divisions can again be subdivided. The motionless type consists of two forms: (1) Pictures, printed material and objects which are fairly well known to the public and seen sufficiently often to be familiar; (2) exhibits which depict subjects fairly well known but seldom seen.

The first appeals chiefly to those particularly interested in it and has little power to attract a non-interested onlooker.

A good example of the second type of exhibit was the old fashioned wax works depicting famous or notorious personages. At the Pageant of Progress in Chicago several years ago, there was a collection of wax models depicting skin lesions, including lues, which proved a big drawing card. Several of the exhibits in the medical group at A Century of Progress come under this same general type. This type is very valuable, but it must depict the sensational, near-morbid or near-lurid to hold the crowd.

The animated or moving type of exhibit offers two varieties: (1) In which the same action is repeated over and over again in a short space of time, and (2) in which the action consists of a series of consecutive movements designed to arrive at a definite climax or conclusion after consuming a definite period of time.

The flasher type of electric sign is an example of the first variety, and the demonstration of the steps in manufacturing automobile tires, of the second variety. The second is by far the better. Whether by design or otherwise, the electric lighted transparent man at the Century of Progress was a happy combination of the stationary and moving type of exhibits.

James A. Stinson, a member of the teaching staff at the Chicago College of Osteopathy was asked to attend the Century of Progress to check these conclusions against actual results as shown by various exhibits in the Hall of Science and his observations coincided perfectly with the statements made above.

In considering exhibits which might be used for the osteopathic profession, we must first realize that such exhibits must be brought together at the least possible cost. In order to be of any value to the divisional societies, several exhibits must be available. The following suggestions are offered for consideration: Several collections of pathological joint and bone conditions should be accumulated. These specimens should consist of arthritic, ankylosed, tabetic, gonorrheal and tubercular joints and bones. Sarcomas and osteomyelitis also should be included. Specimens of the entire spinal column, with ribs attached if possible, showing all types of scoliosis and spinal deformities should be collected. A spinal column with ribs attached as prepared by H. Virgil Halladay should be included in each exhibit for the purpose of demonstrating the various movements of the spine. The Kirksville College has a complete dissection of a nervous system mounted on a large board. Several of these, mounted on boards and surrounded with the outline of the human body, would be very valuable.

A suggestion was made by Dr. Stinson, that when it could be afforded we might have made a transparent body, electrically equipped to depict various main nerve channels in the body. Our schools and hospitals would necessarily be the ones best fitted and in the best position to accumulate these various specimens. I would suggest that each of our schools be considered a center for keeping these exhibits so that divisional or local societies could secure them by paying transportation expenses. I believe it would be practical to appeal to each divisional society to contribute from its treasury, $10.00 for a fund to be disbursed by the Central office to cover initial expenses in acquiring such exhibits. These suggestions are offered not for the purpose of criticising our exhibits, past and present, but for the purpose of arousing a very definite interest in a valuable form of publicity which we can have at very small expense, and should make use of constantly.

A. E. A.

BUREAU OF HOSPITALS

EDGAR O. HOLDEN
Chairman
Philadelphia

HOSPITAL INSURANCE PLAN ENDORSED BY THE AMERICAN HOSPITAL ASSOCIATION

The American Hospital Association has gone on record as favoring widespread adoption of group hospitalization. The plan, under which an individual would insure his hospital needs for a small annual payment, was approved in resolutions adopted at the association's national convention in Philadelphia during the week of September 24 to 28.

A suggestion was also approved for widening the plan so that not only subscribers but also their dependents, would be entitled to its benefits. A day when $10.00 a year will assure the average American citizen complete hospital care was foreseen by Nathaniel W. Faxon, M.D., president of the A. H. A., in an address open to the public. Dr. Faxon's plea for group hospitalization—still bitterly opposed by the American Medical Association—was loudly applauded.

"It is possible for a group of people to do what it is impossible for one to do with regard to budgeting the costs of medical care," Dr. Faxon declared. "The amount of hospital care required and what it will cost for any group of known composition can be predicted with reasonable accuracy.

"It will vary from $5.00 to $21.00 per person per year, according to the scope of benefits and the general price level of the community. Not only will such a plan place a method for providing hospital care upon a financial basis that is within the means of all above the classification of indigents, but it is the only plan yet advanced that offers any way of reversing the constantly growing tendency on the part of people to accept medical and hospital charity.

"Unless some check is applied, private and voluntary hospitals will cease to exist."

The group method was also indorsed by Hugh S. Cumming, M.D., Surgeon-General of the U.S. Public Health Service. In presenting the report of the committee on public health relations, Dr. Cumming said that it is "pertinent to invite attention to the growing plan of group hospitalization, and to recommend that hospital staffs and executives assume leadership in formulating conditions under which this new class of work will be handled."

C. Rufus Rorem, M.D., of the Julius Rosenwald Fund of Chicago, told the convention that group hospitalization plans are now in operation in forty cities with more than 100,000 subscribers. The annual subscription ranges from $5 to $12 a year, the benefits including hospitalization, x-ray and operating room services.

Mr. Thomas S. Gates, President of the University of Pennsylvania, in addressing the convention also pleaded for

the hospital insurance idea. "Group hospitalization," Gates pointed out, "involves only a small annual payment by individuals, but provides a steady source of income to institutions. Whenever a subscriber needs hospitalization, the cost to him is nothing and to the institution negligible."

SUBJECT OF CONTROVERSY

The group hospitalization plan has been a subject of controversy between hospital executives and physicians for more than a year. Although it has been officially approved in the United States by the A. H. A. and the American College of Surgeons, a contrary view was voiced by the A.M.A. at its convention this summer. That body is reported as looking on health insurance as an entering wedge for state medicine. A split between the surgeons and the A. M. A. on their opposite stands in this connection is suggestive of the battle of the century. The parent association feels that it has been put on the spot.

Malcolm T. MacEachern, M.D., associate director, American College of Surgeons, in addressing the hospital heads at their convention is quoted as saying: "Doctors and hospitals should not frown upon new methods of practice designed to meet the needs of the public for medical and hospital care. For people of moderate means," he added, "the American College of Surgeons recognizes the value of periodic prepayment plan. The American College has divided these plans into two classes, the payment for medical service and the payment for hospitalization. The College believes that in the average community the plan providing for hospitalization, without providing for payment of medical service, may be generally considered as the first project to be undertaken."

Sydney Lamb, M.D., general secretary of the hospital contributory scheme in Liverpool, told the convention that "group hospitalization extends to more than 15,000,000 people in England. The hospital contributory schemes are officially and enthusiastically approved by the British Medical Association, which now suggests that the benefits be extended to include physicians' and surgeons' services to persons of moderate means. The growth of the plan during the last 15 years has been phenomenal. More than 150 voluntary health insurance plans have been developed from a total enrollment of less than 200,000 in 1920 to more than 6,500,000 subscribers and their families in 1934. The experience has revealed that many people who are unable to meet the cost of hospital care at the time of illness can contribute to group budgeting plans which pay all or nearly all of the cost of care received by those requiring hospital service."

FEDERAL GOVERNMENT AID ALSO SOUGHT

Another important resolution adopted, urged the Federal Emergency Relief Administration to "state its conviction that care of the indigent sick is a fundamental responsibility of governmental bodies." Further, it urged F.E.R.A. to require state and local relief authorities to accept the responsibility of paying for hospital care as a part of relief as a condition of receiving Federal relief funds for other forms of medical care.

Though F.E.R.A. has recognized medical care of illness as an essential part of relief of the poor, it has specifically excluded hospitals from participation in Federal relief funds. The resolutions protested that this ruling has been seized on as a pretext by officials of states and municipalities to make a similar ruling. So the resolutions urged the Federal Government to pay a share, as necessary, of hospitalization costs, when state and local authorities accept this responsibility. The resolutions urged, further, that governmental hospitals be expanded only where other facilities are not available to provide for local needs.

STATE MEDICINE

Alba B. Johnson, president of Jefferson Medical College and Hospital, on the touchy subject of "state medicine," said he is not yet ready to advocate the British system. "Perhaps we have too much regimentation, too much interference by government in the lives and private businesses of our citizens," he said.

E. O. H.

BUREAU OF CONVENTION PROGRAM

WALLACE M. PEARSON
Chairman
Cleveland

The general program for the 1935 convention is complete. Forty-six speakers have consented to appear, representing talent from every section of the country and every phase of activity. Every paper on the program will have an osteopathic slant. There will be several subjects presented in the nature of speeches rather than papers.

The program is unique this year in that there are about ten papers on general discussions of non-scientific subjects. These have been put on the program to arouse the interest of the profession at large in issues that are confronting it.

We have been fortunate in arranging a very heavy program of osteopathic technic; in fact, as the program now stands, we believe that one evening will be devoted to a special technic section. In presenting technic this year, we are attempting to put it on as a good review course—and more. It is going to be handled in a non-argumentative manner, so that the persons attending the session will come with the idea of learning.

The program each day has a period devoted to an explanation of the next day's program and to a review of the work done by the House of Delegates and Board of Trustees for that day. We believe that the profession at large is vitally interested in anything that goes on in its own legislative organization, and also that the program preview, will serve to maintain interest in the next day's program.

All section rooms are independent, and there will be no confusion between section speakers. Arrangements are practically completed whereby it will be possible to have physical examinations carried out in a rather complete way.

At the present writing, not only is the general program complete to the last speaker, but also several of the section programs are well under way. We have urged each section head to insist that all the speakers who appear upon the program present practical subjects, and it is our hope that the section programs themselves will present real review courses.

Another thing that is of vital importance is that the hotel of our choice is under contract to have the main auditorium air-conditioned during the time of the convention.

W.M.P.

POLIOMYELITIS

"The treatment of the *disease is expectant.* In the acute state it is that of any acute infection, and after paralysis sets in, it consists in the prevention of deformitories . . . it is most important to guard against the too early use of the muscle. With the return of function, which may require two years, the muscles must not be fatigued.

"Until quite recently, 1931 to be exact, it was thought by most that serum would be of value in preventing paralysis but that was based on an erroneous conception of the disease—the idea that infantile paralysis was first a general blood infection which localized later in the brain and spinal cord, and that serum would neutralize the virus in the blood stream before it entered the central nervous system. However, experiments begun by English investigators and carried on at the Department of Health have shown that the . . . virus is locked up in the cells of the central nervous system, for which it has a great affinity and *cannot possibly be neutralized by serum.* In keeping with these findings are the experiences with serum in the treatment of early cases of infantile paralysis in 1931 in New York. These studies, carried out under the direction of Dr. Park, did not show serum to be effective in stopping the development of paralysis once the disease had started." [Italics by THE JOURNAL.]

Quarterly Bulletin of the City of New York Department of Health, Vol. 11, 1934, No. 3. p. 60.

Department of Public Affairs

E. A. WARD
Chairman
Saginaw, Mich.

LEGAL AND LEGISLATIVE

A. G. CHAPPELL
Jacksonville, Fla.
Legislative Adviser in State Affairs

The Legislative Council meeting at Wichita was most successful. The attendance was better than at Milwaukee. The interest was likewise greater.

Three particularly outstanding matters were attended to by the Council: (1) Discussion of the Legislator Education Campaign Pamphlet; (2) consideration of material for the Manual of Legislative Instruction; (3) recognition of the National Board of Examiners for Osteopathic Physicians and Surgeons.

I believe that when the legislative committees of the divisional societies will have developed the possibilities of each of these measures, we will find our legislative strength vastly improved throughout the country.

Until one undertakes such a task as that of completing the Manual and the Pamphlet, it is hard to realize the difficulties that must be surmounted in their preparation. It is hoped, however, that these will be in the hands of each state committee within a short time.

In the meantime I suggest that the divisional societies, at the instigation of, and with the assistance of, the legislative committee members, undertake to increase the divisional and national association memberships. The profession must present a united front against various new types of legislation that will be started during the coming months. This will include vicious and damaging types of legislation presented as measures of emergency relief, and attempts will be made to pass them under special rules which forbid their receiving the usual consideration from the legislators. Times of legislative hysteria may be upon us, and every society must be fully prepared to protect itself against most unexpected attacks.

A. G. C.

NATUROPATHIC INITIATIVE IN ARIZONA

An initiative measure to create a board of naturopathic examiners comes before the Arizona voters on November 6. Naturopathy is defined as including, "physiotherapy, physical therapy, phytotherapy, biochemistry, instrumentation, and the use of antiseptics, and the science and art of applied therapeutics, and prophylactic hygiene and sanitation which enables the naturopathic physician to direct, advise, prescribe, dispense, or apply food, water, roots, herbs, plants, oils, light, heat, color, exercises, active and passive manipulation correcting vital tissue, organs or anatomical structure by manual, mechanical, electrical instruments, or appliances, or any and all natural agencies, that have been in use in the past, that are now in use, or that may be used in the future to assist nature to restore a physiological and psychological inner function for the purpose of restoring and maintaining a normal state of health, mentally and physically." It is required that an applicant must be a graduate of "an approved and regularly chartered school or college of naturopathy" giving a course of "four thousand sixty minute hours by actual work." It is provided that those licensed under this act "shall have . . . all rights, powers and privileges of any and all other practicing physicians."

ILLINOIS COMPENSATION INSURANCE

The Chicago Medical Society Bulletin for July 21 reports a case in which a physician treated a workman for injuries received in the course of his employment and mailed a bill for $97.00. An insurance company, carrying the risk for an employer sent a check for $59.00 with the statement that this was in accord with charges allowed under the Compensation Act. The check was returned and suit entered in a justice court. Judgment was rendered for the full amount of the physician's bill and the case appealed by the insurance company to the circuit court of Cook County where on July 3, 1934, the court confirmed the decision of the lower court, reaffirmed the judgment for the full amount and added $10.00. The insurance company accepted the decision and paid the $107.00.

HEALING ARTS AMENDMENT IN OREGON

An initiative measure to amend the constitution will come before the voters of Oregon on November 6 "to abolish preliminary examinations of applicants for license to practice certain branches of the healing art now provided by (the Basic Science) statutes, and to vest exclusive authority in respective licensing boards of the medical and osteopathic, chiropractic and naturopathic schools . . . to divide healing arts into (1) medical and osteopathic physicians and surgeons, (2) chiropractic and naturopathic physicians, (3) practitioners by spiritual means."

Public Relations Committee

CHESTER D. SWOPE
Chairman
Washington, D. C.

FAIR COMPETITION

In the Open Forum of the *Medical Record*, October 3, 1934, Vol. 140, No. 7, p. 9, an excerpt from the code of fair competition for the surgical distributors' trade, as approved August 24, 1934, was published. It is reproduced here as follows:

Article VIII—Trade Practices

Section 1. No member of the trade shall give, permit to be given, or offer to give, anything of value for the purpose of influencing or rewarding the action of any employee, agent or representative of another in relation to the business of the employer of such employee, the principal of such agent, or the represented party, without the knowledge of such employer, principal or party. Commercial bribery provisions shall not be construed to prohibit free and general distribution of articles commonly used for advertising except so far as such articles are actually used for commercial bribery as hereinabove defined.

(a) For the purpose of this Section, physicians, surgeons, and other professional men and women shall be considered agents or representatives of their patients and/or clients when they offer or recommend the purchase of products of this trade.

Special Article

A REPORT ON THE LOCKE CLINIC

JOHN MARTIN HISS, B.Sc., D.O., M.D.
Los Angeles

In the province of Ontario, six miles from the nearest railroad, there lies a little crossroad village, picturesque in its country setting, that perhaps made no further claim to importance than might be expected of other rural communities of similar proportions. Now try to visualize this dozing village suddenly overrun by thousands of persons, scaling anywhere from the unknown to the famous, and you will begin to understand the spirit of mass psychology and hero worship that now permeates the countryside. The town is Williamsburg, made famous by the highly publicized "cure" of arthritis by the simple twisting of feet.

I had been sent to report on the work of M. W. Locke, M.D. His claims to the new cure for arthritis

has captured the imagination of a continent and caused thousands of hopeless cripples to travel from far and wide to his door yard clinic.

If you can imagine a thousand people milling in and around a tent in a large yard, standing in line four or five hours to get an eight second twist of the foot to cure their bodily ills, you may be able to comprehend the mental aberrations of this crowd.

"Do you have arthritis?" I asked the lady next to me.

"Yes, I'd been in bed for four months before I came up here."

"Did Dr. Locke help you?"

"Oh, my, yes, in only four treatments," came the eager reply. "I can walk up stairs now."

So here I had before me one of the patients being cured of arthritis. I had also before me a sterling example of the credulous state of mind that existed in most of the patients I was later to interview. But was she being cured of arthritis? Mark well the rest of the story.

"Couldn't you walk upstairs before you came here?" I asked.

"Yes, but my home doctor advised complete rest in bed."

"Do you have pains in your joints?"

"No, just stiffness in the knees."

"Stiffness?—You mean your knees will not bend?"

"No. They bend, but the muscles draw."

"Do you have arthritis in your hands?"

"Yes."

"May I see them?" I asked, and upon careful examination I could find no signs of arthritis. To make sure, I asked,

"Did you ever have pains in your hands?"

"No."

"Then how do you know you ever had arthritis?"

"Oh well, Dr. Locke is taking it in time." Then she added, "You doctors hate to give in, don't you?"

"Give in?" What a question! If I could find any sure and constant cure for arthritis, I'd send a train load of patients from my own practice. Every doctor in existence would do the same thing.

And so I continued my search for the arthritis cures. I next interviewed a lady with true arthritis involving hands, wrists and knees.

"Did Dr. Locke cure your arthritis?"

"Oh no, but he keeps my joints loosened up."

"Did you ever have a doctor of osteopathy work on you?"

"Yes."

"Did he loosen you up?"

"Yes."

"Then why did you come to Williamsburg?"

"Oh, I read the magazine article."

The next patient I talked with was a victim of spondylitis, bent over and with ankylosed spine and hips. I saw many of these cases there.

"I think I'm better," was his response to my usual inquiry. He had had seventeen treatments.

"Can you move your neck?"

"Yes," was the reply, but his best efforts produced no rotation, and not over one-eighth inch up and down motion of the chin.

His treatments were on the neck, and when I inquired about foot treatments, "It's all very important," was his comment.

And so on I went making inquiries, jotting down notes. Everyone was sure he or she knew of someone who had been cured of arthritis by twisting feet. I consulted over a hundred patients, but try as I might, I could find no cures.

One poor fellow, whose case is worthy of comment, had a glassy stare in his eyes, mask face, incessant shaking of his hands with a "pill rolling" motion of his fingers, and a slow, drawling, inarticulate speech. When I helped him out of his wheel chair to make him more comfortable, I found he couldn't walk without pitching head foremost. This is a classic picture of shaking palsy or Parkinson's disease. Any layman can diagnose the condition.

"Dr. Locke says I have arthritis from my feet," he said.

"What kind of treatment do you get?"

"Just foot treatments. The doctors at home said I had Parkinson's disease, but Dr. Locke says he can fix me up."

"Are you any better?"

"My feet feel some better, but my shaking is worse."

Medical research long ago has shown that Parkinson's disease is primarily an irreparable degeneration in some of the brain tissue. I saw several of these cases at this clinic.

I saw cases of paralysis from brain injury (some from skull fractures and some from birth) being treated by giving each foot one twist. I saw cases of infantile paralysis, Little's disease, multiple sclerosis, spastic paralysis and paralysis from apoplexy, all being treated (not cured) by simple foot manipulation.

One little girl three years old had a previous skull fracture resulting in spastic paralysis of the left leg. Her mother said Dr. Locke thought he could help her. Foot twisting was her only treatment.

A lad about 20 years old had had a severe knee injury with infection and pus formation in the joint. Surgical drainage and antiseptic irrigations had mastered the infection but his joint was destroyed. At the Locke clinic, he was being given foot treatment and forceful pulls on the leg.

What is the mystery of all this? What peculiar twist of mental power could induce severe cases of arthritis deformans, for instance, to travel hundreds of miles, only to sit in wheel chairs exposed to a temperature of 35 degrees, for hours, to receive an eight second twist of the foot? Of course, eagerness for relief by hopeless cripples is a part of the explanation. The power of publicity tells the rest of the story. The expression, "the pen is mightier than the sword" comes to mind in a stronger light. Out of 250 names on the register, 236 were from the U. S. and only 14 from Canada.

I edged and squirmed my way into the circle where the doctor gave the foot treatments. He placed each foot on his knee, toes outward, grasped the instep firmly, his thumb under the arch, then made a quick downward thrust with the heel of the other hand on the top and forepart of the foot. This was repeated on the opposite foot and the eight seconds were consumed and the treatment all over. Then he thrust the dollar bill in his hip pocket.

I saw no evidence of any examination, just one foot twisted after another as fast as they could be placed before him as he turned in his swivel chair. No records were made. No sign of the least variation in treatment—they all got the same. A young lady stood beside him and gave the hands a gentle pull.

The writer's file cases contain some twenty thousand records of foot cases alone, involving several hundred thousand treatments to the feet by specific, but variable, adjustment for arch troubles. Had it not been for the facts contained in these records, I might have said, years ago, that I had discovered the cure for arthritis by twisting feet; so similar to arthritis are the remote symptoms of arch trouble.

I interviewed many patients whose arch troubles were helped or cured by Dr. Locke, but none who were cured of arthritis.

Another feature of the Locke clinic is a sort of routine in imitation of an osteopathic treatment. A young lady rotates each arm, with patient sitting on a stool, gives the neck a twist from each side and then tips the trunk backward while an assistant holds the knees. The wrists are given a pull. This routine is monotonously

followed from one stool to the next, no matter what the patient's difficulties are, except in rare cases such as I have mentioned.

Poor foot alignment, coupled with impaired foot function, so changes the weight-bearing alignment in the lower limbs, and so disturbs body balance and posture, that pains in the leg, thigh, hip and back muscles, and ankle and knee joints occur in 75 per cent of the cases. These cases are usually mis-diagnosed arthritis or so-called "rheumatism." In 1917, before the convention of the American Osteopathic Association at Columbus, Ohio, I made this statement: "Relative to the aggregate number of pains in the lower extremities, so called 'rheumatism' and arthritis are extremely rare. Nearly all these pains are due to dysfunctioning feet." All these pains are purely mechanical in origin and can be stopped by intelligent and selective adjustment of foot bones.

No doubt Dr. Locke is getting some results with treatment of broken arches, but his treatments are far from being either selective or specific.

On the other hand, arthritis is an inflammation in a joint, characterized by damage to the synovial lining and, all too frequently, injury to the cartilage which is beyond repair. In some cases of arthritis deformans (seen by the hundreds at the Locke clinic) there is a building up of bone which destroys the joint; in other cases, the ends of the bones forming the joint are completely absorbed. Nature has never demonstrated her ability either to build new bones and joints or break down the overgrowth of bone in these cases, no matter what form of treatment is applied.

If arthritis can be cured by foot twisting, then the classical research of Rosenow at the Mayo Clinic is sheer insanity and the work of Billings on focal infection, a dream.

But with all this in mind, I still sought for someone cured of arthritis at the Locke clinic. Everyone seemed to refer me to the same case. The epitome of truth seemed to rest in the person of the twenty year old son, Jack, of James MacDonald, publisher of the *Williamsburg Times*. Mr. MacDonald is the one man responsible for the popularity of the Locke clinic, even to a greater degree than the magazine articles. This grateful father wrote the publicity which started the rush for Williamsburg.

Jack was the key man, and I know was pointed out in the magazine article as the shining example of the cure. The story of this boy's case has become public property and I do not hesitate to quote the history, as given me by his father. This is the history of a healthy boy up to the age of seventeen. At that time he began to notice occasional pains in shoulder and other joints, which became more noticeable as time went on, and were accompanied by eye disturbances.

A year later, he was stricken with a severe pain in the right hip, which caused the right thigh to draw up at about a forty-five degree angle. This was followed by pain and stiffness in the left shoulder. The right shoulder and left hip later became only slightly involved.

Finally, he became helpless, his right hip being very painful and his right thigh and leg drawn up tightly. His left shoulder and arm became locked against his body, with both elbows and wrists swollen, stiff and painful. The slightest movements were extremely painful.

Over a period of several months, all forms of treatment were tried but to no avail. He was then taken to Dr. Locke who gave him manipulative treatment. He treated his feet and gave only slight movements to his wrists at first. After a month's time, more severe treatments were instituted, including passive motion to the affective joints both by Dr. Locke and his father. Improvement was gradual and finally the boy was able to be up and about.

Medical history has recorded hundreds of parallel cases. An unmistakable case of acute infective arthritis or acute rheumatic fever that ran the usual course of painful and swollen joints, toxic and temporarily drawn muscles, with a gradual subsiding of the symptoms. Massage, hot packs, gentle movements and careful muscle stretching are always helpful, and eventually nearly all these cases get up and around. They run the natural course of the disease and get well without anyone ever paying any attention to the feet. The case of Jack cannot possibly be construed to have been cured by foot twisting, except perhaps, by some journalist.

But—was he cured of arthritis?

Jack now walks with a cane, with a noticeable limp which indicates either partial or complete ankylosis of the right hip and left shoulder joint, and apparent limitation of motion in elbow joints. Again nature has demonstrated her inability to reconstruct joints that have been severely damaged by arthritis. The stellar patient of the wide publicity has not been cured of arthritis by twisting feet.

And so I continued my futile search. So far as I could see, the boasted "cures" were mis-diagnosed and the failures were never mentioned by the writers. From my own experience in giving thousands of manipulative foot treatments and my observations at the Locke clinic, I have never seen any evidence of arthritis cures from foot twisting.

740 S. Flower St.

American Osteopathic Society of Ophthalmology and Otolaryngology

W. H. SCHULZ
President
Cleveland

VERTIGO AND NYSTAGMUS*

A. C. HARDY, D.O.
Kirksville, Mo.

Vertigo has been defined as a subjective sensation of the rotation of one's own body, or of the objects surrounding one. Ballance describes it as "the expression of a disaccord between the sensations as to the movement of the body received through the labyrinth, and those received through the other senses."

Vertigo, then, is differentiated from dizziness or giddiness, which may be due to a variety of causes. True vertigo is nearly always due to some disturbance in, or to the absence of, the normal impulses which originate in the internal ear. This, of course, may vary from the slight irritation of toxic conditions which exaggerate impulses, to complete destruction of nerve endings, nerve pathways, or nerve centers, from traumatism or disease, which obliterate the impulses from one source, and result in an imbalance in the sum total necessary to maintain perfect equilibrium.

Nystagmus is defined as an oscillation of the eyeball. In one form or another it, too, may be due to many causes, but the type with which we are here interested is a typical oscillation which assumes a definite direction, is composed of a slow drifting motion in one direction, and a quick correcting motion in the opposite direction. It occurs in conjunction with true vertigo, and is due to vestibular stimulation. This nystagmus may assume a horizontal direction, or a rotary motion, depending upon the source and character of the stimulation.

These two symptoms, together with other characteristic vestibular reactions, as pass-pointing, falling, nausea and vomiting, constitute diagnostic symptoms of irritation or disease of the labyrinth; and the absence of the reactions, when artificial stimulation is applied to the labyrinth, is evidence of inactivity or of destruction of the labyrinth or of its nerve connections. A detailed knowledge of normal vestibular reflexes, and of the nerve pathways which conduct such reflexes, may enable one to determine the exact location of a central lesion that might otherwise be difficult to locate.

THE VESTIBULAR NERVE PATHWAY

The vestibular branch of the eighth nerve has its terminations in the end-organs of the utricle, the saccule, and the semicircular canals of the labyrinth. These end-organs are the maculae acousticae in the utricle and saccule, and the cristae acousticae in the ampullary ends of

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the semicircular canals. Emerging from these, the fibers unite to form the vestibular branch of the eighth cranial nerve, which leaves the internal auditory meatus in company with the acoustic portion of the nerve. These two branches again separate at the brain stem, and the vestibular nerve enters the lower border of the pons, just anterior to the restiform body. Within the pons the nerve splits into ascending and descending fibers, the former ending in Deiters' nucleus and the nucleus fastigii of the cerebellum, and the latter in Bechterew's nucleus. From the nuclei of Deiters and Bechterew, association fibers proceed through the posterior longitudinal bundle to communicate with the nuclei of the third, fourth, fifth and sixth nerves, in the floor of the fourth ventricle; and from Deiters' nucleus, and through the vestibulospinal fasciculus, communication is established with motor centers of the spinal cord. Fibers from the ascending branch reach the cerebellum through the inferior and middle peduncles.

Thus it is that stimulation applied to the vestibular nerve endings reach the muscles which control the position of the eyes; and excessive stimulation results in nystagmus. It is through the cerebellar connections, as well as to a lesser extent through the vestibulospinal fasciculus, that skeletal muscles are reached to assist in maintaining body equilibrium. Artificial or excessive stimulation affecting these fibers results in a sense of imbalance, vertigo, pass-pointing and falling. Through various other association tracks, not so well understood, other reactions such as pallor, nausea, vomiting, etc., occur from excessive stimulation.

The practical application of these facts arises, first in the diagnosis of labyrinthine disease, and second in the accurate locating of central lesions which affect some, but not all, association tracts. An accurate study of the efficiency of these various pathways is made by artificial stimulation of nerve endings in the labyrinth, then observation of the patient to determine the presence or absence of normal vestibular reactions. Any change in the character, intensity or duration of the reactions is considered significant. Stimulation is applied by one or all of four commonly accepted means. They are:

(a) By turning the patient rapidly, in a direction designed to set in motion the fluid of certain semicircular canals. Upon suddenly stopping the motion, the patient is observed for nystagmus, vertigo, pass-pointing and falling. The intensity and duration of these reactions is observed.

(b) The caloric test consists in syringing the external ear canal with cold or hot water, thus setting in motion the fluid of the more superficial canals, then observing the same reactions.

(c) The fistula test, applicable only if a congenital or pathological opening exists in the bony labyrinth, depends upon stimulation by alternately increasing and decreasing air pressure in the ear canal.

(d) And finally, the galvanic current applied over the mastoid will produce stimulation of the vestibular nerve, even though the end-organs within the labyrinth have been destroyed. This is, therefore, a valuable method to differentiate labyrinthine disease from central lesions.

The turning and the caloric tests are the most practical, and are those most generally used, and the practical results of these tests may be briefly summarized as follows:

If, upon artificial stimulation of the labyrinth, no response is obtained from hearing or vestibular tests, there is considered to be present a dead labyrinth, or a dead vestibular nerve.

Application of the galvanic current over the mastoid will differentiate these two—if the labyrinth alone is affected, vestibular reflexes will appear.

If stimulation of the horizontal semicircular canals produce no nystagmus, but normal vertigo and pass-pointing, the lesion is situated between Deiters' nucleus and the posterior longitudinal bundle.

If stimulation of the vertical semicircular canals produces no nystagmus, but normal vertigo, pass-pointing and falling, the lesion will be found in the pons between the unnamed center where the nystagmus and vertigo fibers divide, and the posterior longitudinal bundle.

If stimulation of the horizontal canals produces normal nystagmus, but no vertigo and no pass-pointing, the lesion is most likely in the inferior cerebellar peduncle, or farther within the tractus nucleo-cerebelloris.

If stimulation of the vertical canals produces normal nystagmus, but no vertigo, no pass-pointing and no falling, the lesion is in the middle cerebellar peduncle, or at some point beyond in the tractus nucleo-cerebelloris.

If stimulation of both the horizontal and verticle canals produces normal nystagmus, but no vertigo, pass-pointing or falling, the lesion is in the cerebellar nuclei of the same side, or possibly in the upper part of the pons where these fibers come together. In this case one might obtain a conjugate deviation of the eyes taking the place of nystagmus owing to stimulation of the cerebro-ocular tract.

215 S. Franklin St.

American Osteopathic Society of Proctology

H. A. DUGLAY
President
Detroit

OSTEOPATHIC MEMBERS WITHDRAW FROM AMERICAN COLLEGE OF PROCTOLOGY

At the meeting of the American College of Proctology in Chicago, September 19 to 22, all osteopathic members attending the meeting resigned in a body.

The cause of this action was a revision of the constitution and by-laws, to require that hereafter all members of the College be doctors of medicine. While this action did not affect the present osteopathic members, it was construed by them as a discrimination against the profession. A motion to "lay on the table" (moved by Stanton, seconded by Woodall) applying to this revision was lost by a vote of 19 to 31. Carl Johnson then asked for an adjournment for 30 minutes so that the osteopathic members might discuss the matter among themselves. With most commendable loyalty and without a dissenting voice, they voted to resign in a body from the American College of Proctology.

The officers of the college were so notified and the osteopathic members withdrew from the meeting.

Among those resigning, about 25 in all, were the past presidents and the president of the American Osteopathic Society of Proctology (Drs. Norwood, Woodall, Stanton and Duglay), the vice-president and past secretary (Dr. Wolf), and the secretary, Dr. Bolmer.

The opinion was freely expressed that the osteopathic profession is fully capable of further developing the specialty of proctology without outside assistance.

This action does not obligate other osteopathic members of the American College of Proctology to take similar action, but it is recommended that they do so.

H. A. D.

CONDITIONS UNFAVORABLE FOR PROMPT AND SATISFACTORY RESULTS IN PROCTOLOGIC CASES*

PERCY H. WOODALL, M.D., D.O.
Birmingham, Ala.

There are many cases in which the usually expected good results are not promptly forthcoming. The physician is sometimes responsible, the patient sometimes, and sometimes indeterminate causes—seemingly the gods of Chance. However, continuous vigilance on the part of the physician is the price of the best possible results.

The unfavorable first condition I would mention, and one chargeable to the physician, is incomplete and in-

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correct diagnosis. This is due in nearly every case to incomplete and faulty examination. Our mistakes do not come, as a rule, from lack of knowledge, but from faulty application of the knowledge we possess.

Specialists are often criticised (and not always without cause) for viewing all bodily ailments from the narrow confines of their own specialty. To avoid this mistake, the patient should be examined, not merely throughout the anorectal region but generally, as an entire organism, to determine all that is wrong with him. Though he complains of rectal discomfort and while we know that rectal pathology has widespread effects, we should not assume that only rectal pathology exists. It should be remembered that other diseases present rectal manifestations.

In many cases the relationship between pathology and symptoms seems so simple and direct that we neglect to make the general examination as thoroughly as we should. It is in such cases that we often have trouble. It is true that every case may not need an exhaustive examination. However, such an examination can never be a mistake, but to omit it often is.

The condition of the circulatory system, the respiratory tract, the renal system, all should be accurately appraised and considered in relation to prognosis and treatment. A failing heart with venous stasis, an engorged portal circulation or a persistent cough, if undiscovered, will upset the usual expectation of results. General debility or weakness from any cause will retard progress and recovery.

Especially should a careful examination be made of the pelvic organs. In the female a retroverted uterus, a fibroid or other tumor, an inflamed or prolapsed ovary or a pelvic abscess, if unrecognized and not properly evaluated, will work havoc with one's expectations. So, in the male, an enlarged prostate, a prostatitis, a prostatic abscess or a vesiculitis may disturb the expected results.

I have been saved embarrassment and chagrin more than once by having made what we are pleased to call "an osteopathic examination." This should never be omitted. Knowing the intimate connection between the anorectal tissues and the surrounding viscera and tissues, and often being able to correct related disorders by anorectal treatment, our enthusiasm may lead us to promise relief or cure of backaches, leg-aches, sciaticas, etc., by such treatment. We must always determine what part coccygeal, sacro-iliac and lumbar disturbances play in the causation of these more remote conditions.

The anorectal region should be considered as only the terminal portion of the alimentary tract—intimately and directly affected by disease or dysfunction of any part above. Infections of the sinuses, teeth, tonsils, gallbladder or appendix, organic or functional disorder along the tract may disturb the orderly sequence of recovery.

In this connection, it is well to inquire into the diet and general habits of eating. Considerable trouble may arise here.

When the actual anorectal examination is made, it should be painstaking and complete and no pathology be overlooked. This is important not only from the professional point of accuracy in diagnosis, but as a matter of business as well. The fee, usually set before the treatment is begun, will be inadequate unless one has a correct idea of the extent of the necessary treatment.

No more significant statement has ever been made than that of Dr. Joseph M. Mathews who said, "The surgeon should never be content with making a diagnosis of one rectal disease until he has thoroughly searched for any other that may exist." In making this examination, we should have in mind all possible pathology, and by elimination arrive at the true nature of the existing condition. Correct treatment and satisfactory results can be secured in no other way. In this connection, I will add that no one who pretends to practice proctology should be without a sigmoidoscope and the ability to use it proficiently.

An incorrect diagnosis, of course, leads to incorrect and unsatisfactory treatment. I would expect mistakes in diagnosis to be quite rare with members of this society, though not impossible. Here again I would state that usually it is not ignorance, but imperfect use of the knowledge that we have that is responsible for our mistakes. Certainly, I would not expect a proctologist to diagnose an impacted rectum as piles, as I have seen done three times. Nor would one mistake a prostate gland for internal hemorrhoids and ligate it as Dr. Mathews says was once reported. Yet, we have seen cases that required all of one's proctologic knowledge, properly applied, in order to make an unassailable diagnosis. I have seen a pelvic abscess cause symptoms closely resembling those of a fissure, and a prostatic abscess hidden behind what, at first glance, seemed to be prolapsed and inflamed internal hemorrhoids.

Of all the mistakes in diagnosis, undiscovered malignancy should be the shame of the proctologist. Someone has said, "assume it is always present until disproved."

Incorrect and incomplete treatment is the natural corollary of faulty diagnosis and, of course, interferes with expected results. The treatment may be both incorrect and incomplete, though the diagnosis is correct.

In the case of hemorrhoids, injection below the pectinate line is faulty technic and productive of trouble. Occasionally, when an injection has seemingly been properly placed, either because of some connective tissue adherent between the hemorrhoid and the perianal tissues or because of some strain on the part of the patient, a "back fire" or a leakage into the subcutaneous tissues occurs with inflammation and delay in cure. Should this occur immediately after treatment, and be recognized, the only thing to do is to make an incision and drain out the solution as thoroughly as possible. Expectant treatment at this time invites disaster. If not recognized for some time, until the infiltrated tissues have become inflamed, hot applications and expectant treatment are indicated.

I believe, too, that hurry to cure and overtreatment delay the usual good results in many cases of hemorrhoids. Reinjection of a fibrosed area before resolution has occurred is the usual cause of sloughing or hemorrhage when either does occur. When a patient has symptomatic relief, and is satisfied with his progress, it is well to space the treatments according to the effects produced, and not according to days. Ten days or two weeks between treatments is sometimes advisable.

The injection of large amounts of fluid may cause an extensive area of induration, an excess of fibrosis, delayed resolution, and a slow return to normal.

Idiosyncracy operates occasionally to defer prompt cure. I have seen a few cases apparently sensitive to PO 5. In these, the reaction was always severe, and in one, particularly so.

Relaxed sphincters from constant protrusion of hemorrhoidal masses, perineal lacerations, age or spinal disease, must be considered in the prognosis of a case of hemorrhoids.

A point may be reached beyond which injection is useless. The hemorrhoid has become fibrosed, or even polypoid, and excision by some means is now indicated. To do otherwise is to delay the results. However, I think the immediate excision is rarely advisable. First, contract by injection whatever loose tissue there may be about the pile mass, after which the amount of tissue to be cut away will be much less. I am almost willing to say that no case of internal hemorrhoids should be operated upon without having first been injected.

Ragged wounds delay healing. All incisions or excisions should have clean-cut edges. They should be adequate in extent, but the tissues conserved wherever and whenever possible. In my opinion, the greatest appeal of our treatment is that the patient remains ambulant. My understanding of this term is not that the patient is merely out of bed or a hospital, but that he is at work. I do not think we should try to see how much surgery we can perform in our offices, but how little we can do and get satisfactory results. A hospital is really the proper place for extensive operations. However, it

is not my idea that we should sacrifice results to conservatism. Still, there is a limit beyond which we should not go in office surgery. In the case of abscesses, conservatism in incisions prevents the best results. All abscesses should be freely opened so that drainage may be thorough.

Divulsion is not advocated as a routine measure—yet in practically all cases in which incisions are made into the anal or rectal tissues, pain and delay will be saved by a preliminary divulsion. Should there be no preoperative sphincter spasm, the irritation from the incisions will cause it to occur, to the great discomfort of the patient, unless the muscles have previously been relaxed. The oil solutions of anesthetics for postoperative use will, in those cases in which they are suitable, prove of service in maintaining relaxation.

Infection, though rare, occurs sufficiently often to demand of us the highest degree of surgical asepsis and antisepsis. Sterile instruments, solutions and dressings and the best possible preparation of the operative field, should be our aim. For the former, nothing else is so good as heat; for the latter, 70 per cent alcohol followed by 10 per cent mercurochrome or tincture of metaphen or merthiolate is advised. Contamination of lubricants and fluids can be prevented by care in keeping the containers covered and stoppered. Glass stoppered bottles are suggested for all fluids for which they are suitable. Cork stoppers accumulate dirt and can not be properly or easily sterilized.

Irritating, meddlesome and messy applications often delay healing. When we realize that healing comes from within and that cleanliness and protection, in nearly all cases, is all that nature needs, we will cease the painful topical application of many of our so-called healing compounds and our messy ointments. It is sometimes necessary to destroy exhuberant granulations, and this may be done by a cautery or a caustic application.

Purgation after treatment not only causes anorectal congestion and irritation, but rushes down into the operative field a mass of germ laden and irritating feces to aggravate the existing condition. It is easy on examination to recognize the rectal irritation caused by a purgative. I do not think they have any place in the treatment of anorectal diseases. Mineral oil, a purely mechanical aid, ememata and rectal or colonic irrigation are always preferable.

In fissure, the treatment is usually incomplete and disappointing unless the associated pathology, often a posterior crypt, a sinus, polypus or sentinel pile is found and removed. Often, too, it must be incised to insure drainage. Such incision should come well out onto the skin surface. However, I do not think it necessary to dissect up a triangular area of skin, each side of which measures 2¼ inches, as suggested by Gabriel. Divulsion alone, except in occasional cases, is incomplete treatment.

Inadequate or improper postoperative advice and treatment often offsets the best possible treatment technic. Advice as to diet and general personal hygiene should be given. I do not make the finer distinctions in diet that some do, but I do insist as a rule on a low protein, milk, cereal, vegetable and fruit diet, and in inflammation or operated cases, no scratchy or irritating roughage.

Many of our patients have no conception of the care a wound should have, and are careless in carrying out the simplest instructions. It is sometimes inconvenient for them to return at the proper intervals for dressings or treatment; nevertheless such visits must be required.

Ours is the responsibility, and regardless of how poorly the patient follows directions, the physician is generally blamed for the patient's derelictions in this regard. Clear, simple, concise instructions should be given the patient for his own guidance, and these rigidly enforced.

First National Bank Bldg.

Athletics and Acute Injuries Section

C. R. STARKS
Chairman
Denver

HOW TO DEVELOP SPEED IN AN ATHLETE*

J. H. STYLES, JR., D.O.
Kansas City, Mo.

The human body, when it moves under its own power and upon its own transportation equipment, rolls along exactly as any other vehicle which is equipped with wheels and axles.

The feet of man operate in locomotion as true arcs of a true circle. This becomes apparent when it is considered that radii erected from the center of mass of the external cuneiform bone, which serves as the central, interlocking keystone of the foot tripod, directly to the centers of the bearing surfaces of the piers of that tripod, i. e., the calcaneal tuberosity, the head of the fifth metatarsal bone and that of the first metatarsal bone, are of very nearly the same length; and that any one of them may be used as an active radius to describe the aforesaid prefect arc through each of the piers of the structure.

Add to this picture the fact that the leg serves this arc as a greater radius or "spoke" and the knee joint as an axle, and the analogy at once assumes its true proportions and meaning.

Now then: The normal routine of the walking or the running foot is from heel pier to fifth metatarsal pier to first metatarsal pier. This routine (which does not operate in sharp sprinting) is imposed by the physical requirements of the foot.

Heel to little toe contact brings the strong, lateral, weight-bearing arch down at the outset; and thereby weight bearing, which is the most imminent and fundamental function of the foot, is substantially achieved. Little toe to big toe contact assures resiliency, by bringing the spring arch of the instep into the activity picture, also balance, because it applies all three piers of the tripod equally. And finally, when weight bearing has been provided and spring action assured, and with all three piers in equitable contact, the toes, which are the sole primary actors in every ambulatory activity, sharply plantarflex, from the outside, in; this gives them that prehensile purchase upon which every normal ambulatory act is predicated. Further, it enables the great toe to exert that powerful terminal leverage impulse by means of which the body is carried forward at the exact instant the opposite heel is ready to contact.

From all of this it will be seen that the foot really rolls from its heel to its little toe to its big toe, around and along the regular arc described around its physical center; and that this rolling occurs upon the knee joint as an axis and is transmitted thereto by the leg which serves as the greater radius (that is say "spoke") of the arc.

To use a familiar figure: Feet are equipped naturally with "free wheeling." This simply means that they are not, normally, handicapped by friction in operation; that there is no drag or lag between their power sources and their operating mechanisms when they are in proper running order.

It is only when "free wheeling" disappears, when feet are forced to slap along on some chord of their operating arcs rather than to roll freely on the free margins of those arcs themselves, that they get into trouble.

Speed, in an athlete, is the product, almost entirely, of "free wheeling" in his feet. And the more unhampered those feet are by friction as they roll along, the speedier the athlete is and becomes.

Friction, in feet, is—barring organic articular or somatic involvement—due entirely to a misdirection of body weight as it is repeatedly thrust upon them. Thus, developing more speed in an athlete becomes immediately

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and peculiarly an osteopathic problem. For certain articulations are charged with the responsibility of transmitting and distributing this weight equitably and properly. These articulations are subject to osteopathic lesions. Therefore, if such lesions exist therein, weight distribution at once becomes blurred and inequitable and complicates the physical picture by inducing an increasing load of friction in the whole structure; which embarrasses that structure and progressively interferes with its free functioning, thereby slowing it.

Chief among the articulations to be considered in this connection are those of the fibula with the tibia, most notably the superior tibiofibular joint; and the articulation between the calcaneus and the talus.

The tibiofibular articulations control the hinge-precision of the ankle joint. For the fibula, constituting as it does the only movable portion of the wall of the crural socket, is so attached to the tibia that, in the presence of unusual stress attacking from underneath, it can follow the swing of the body of the talus, which always rotates on a vertical axis medialward under the influence of such stress, and thus widen, relatively and momentarily, the crural socket and in this manner save the ankle joint, in toto, from injury, either by fracture of its osseous components or rupture of its retaining ligaments.

Normally, when such stress has abated, the biceps femoris, operating the head of the fibula within the range of the superior tibiofibular articulation, at once carries that head forward to its normal rest position in relation to the lateral condyle of the tibia, which is as far forward and outward as the capsule will permit. This action, by reciprocal radial reaction (the lower extremity of the fibula being below the level of the interior tibiofibular joint) forces the fibular component of the crural socket back into its proper position, thus closing up the ankle joint again, so to speak; and restoring to it the ginglymus character which it lost temporarily when it became, by reason of the widened socket, an atypical enarthrodial (ball and socket) joint and was thus made capable, because of its acquired multiaxial capacity, of absorbing and neutralizing stress along as many lines as were required to abate it without injury to the parts. This is to say: The fibula controls the action of the ankle joint. When it is normally aligned, that articulation is a uniaxial mechanism, its axis being drawn through the centers of its malleoli. When it is misaligned, as above described, the ankle becomes at once an atypical, multiaxial ball and socket joint. But, normally, only for the period of the emergency. If, however, this atypical character persists, weight tends to settle to the medial, the weaker, side of the foot and thus to strain that member and to flatten its ambulatory arc.

The osteopathic lesion of note, in this particular connection, exists between the fibular head and the lateral condyle of the tibia. Immobilization is always to the posterior, medial limit of motion in this articulation. Thus the fibular head must be forced to resume its normal rest position, as far forward and outward as it will go; and the biceps femoris is made to maintain it there.

Scarcely less important than the tibiofibular articulation, so far as speed in an athlete is concerned, is the calcaneotalar joint. This, a complex juncture consisting of three facet-contacts, must at all times be and remain freely movable everywhere within its normal range of motion. For the calcaneus, more than any other local factor, achieves equitable distribution of body weight throughout the foot tripod. This capacity is due to its peculiar shape and the angle of its incidence with the foot skeleton as a whole.

The calcaneus is a curved bone, convex laterally, concave medially. Roughly, two-thirds of its bulk is lateral to its center of gravity. Likewise, two of the three facets, by means of which it supports the talus, are lateral to its center of mass, those two being between its body and the body of the ankle bone. The third contact is between nature's own arch preserver and arch support, the sustentaculum tali, and the neck of the ankle bone.

It can at once be seen from this hurried analysis of these osseous relationships, that if the calcaneus is free beneath the talus, weight-thrust, being preponderantly lateral to its center of gravity, will force the heel bone to invert and to supinate; and that, by this outward rolling and turning, the sustentaculum tali will be lifted and the more forcibly applied beneath the neck of the talus, thus insuring the main weight thrust to the lateral, weight-bearing arch of the foot. This relieves, through the lifting influence of the sustentaculum, all undue stress to the spring arch of the instep, upon which freedom of locomotion so much depends.

So exact is the influence of the calcaneus in this connection, that the clinical degrees of arch involvement can be precisely determined by the angles at which its long axis carries forward into the foot skeleton.

Belonging, as it does, to the lateral arch, the normal inclination of the long axis of the calcaneus is directly forward so that it is parallel to the long axis of the fifth toe. When there is this incidence, the foot skeleton is properly integrated by the action of the sustentaculum tali, and is held squarely in its normal working posture; and there is no possibility whatever of undue friction due to weight-thrust interfering with its free movement. If, however, the calcaneal long axis is in line with that of the fourth toe, weak foot exists; if with that of the third toe, first degree flat foot; of the second, second degree flat foot; and finally, if it wanders as far medialward as to throw into the line of the big toe, third degree or total flat foot, which is structurally irremediable, is achieved.

The duty of the osteopathic physician then, so far as the heel and ankle bones are concerned, is to break all adhesions between them, so that weight may position the former naturally and normally and thus perform the paradox, through the medium of that same heel bone, of supporting itself, largely; to the end that all unnatural friction due to its improper, inequitable distribution shall be eliminated.

The external cuneiform bone must likewise be maintained in its normal summit position in the foot skeleton. Being the interlocking factor by means of which the three arches of that skeleton are welded into a single tripod, it must occupy its normal position at all times. If it prolapses, even slightly, distortion and disintegration of the tripod follow at once. Thus, the osteopathic physician must see to it that the external cuneiform bone is kept at its maximum structural elevation. And when this is done, in the presence of normal ankle and calcaneotalar joints, nothing physical can interfere with the "free wheeling" of the foot unit.

Three things, then, so far as the foot is concerned, are required to develop speed in an athlete: Correct fibular adjustment to the tibia; calcaneal freedom beneath the talus; and external cuneiform bone maintenance.

It is to be borne in mind, of course, that pelvic, spinal and visceral integrity are equally important. These are assumed in this connection. Given these, proper osteopathic attention to the fibula, the calcaneus and the external cuneiform bone will increase the speed materially of any athlete's performance.

9-11 E. 37th Street.

Obstetrics and Gynecology

MANAGEMENT OF ADHERENT PLACENTA*

N. H. HINES, D.O.
Kansas City, Mo.

More women die from accidents and anomalies of the third stage of labor than from those of the other two stages combined. The most common complication of the third stage is retained placenta. Its immediate danger is hemorrhage; its subsequent dangers are sepsis and inflammation. Retained placenta is most often due to kneading the uterus immediately after delivery or the too early and too energetic employment of Credé's maneuver. Thus we see that the most

*Delivered before the 38th A.O.A. Convention, Wichita, Kans., 1934.

common complication of the third stage is usually due to mismanagement, and is therefore preventable.

The term adherent placenta, while very common, is in the majority of cases a misnomer. Adherent placenta is a rare condition, the only form in the true sense of the word being placenta accreta, where there is a widespread infiltration of the villi into the muscle of the uterus.

When one understands the process of separation and expulsion of the placenta, it is easy to see how mismanagement of the third stage can interfere with the normal mechanism. After the child is born, the contraction and retraction of the uterus immediately decrease the size of the placental site. The intrauterine pressure is removed and blood rushes to the placental site. This forces the placenta and uterus apart, the line of cleavage being in the decidua. The center of the placenta, being less adherent than the edges, is bulged up by a retroplacental hematoma. Manipulations cause the placenta to become prematurely loosened at the edge, allowing the retroplacental blood to escape, thus losing this aid in detachment. After detachment, uterine contraction forces the placenta into the vagina, and as it descends the membranes are peeled off the uterine wall. It is expelled from the vagina by contraction of the abdominal muscles with the diaphragm fixed, as in any other expulsive effort.

After delivery of the child, the doctor or an assistant rests a guarding hand on the abdomen over the fundus. Its contraction is noticed and if relaxation occurs a light massage is given. In 10 to 15 minutes when normal separation is taking place, the uterus changes from globular shape to a flattened pear shape. It flattens anteroposteriorly, the fundus becoming sharper across the top. The uterus rises in the abdomen, usually toward the right side. Often an irregular area may appear on the uterine wall, having the appearance of multiple shallow subserous fibroids. The cord advances a little and there may be a little show of blood. The presence of these signs usually indicates that the placenta has descended to the lower uterine segment. It may not always be an evidence of complete separation of the placenta, but it does imply a maximum amount of detachment and more important still, a high degree of contraction and retraction, making it safe at this time to attempt expulsion.

So far during the third stage nothing has been done except to observe the signs of separation of the placenta. The doctor has not given any undue manipulation, and most certainly has not put strong traction on the cord as doing so might cause hemorrhage or inversion. Now, unless expulsion takes place immediately, he pushes the uterus down into the pelvis, using it as a piston to force out the placenta. If this fails, the Credé method is tried. With the fingers posterior to the uterus and the thumb anterior, the uterus is squeezed, at the same time using it as a piston. For this maneuver the bladder should be empty, the uterus in the midline, and squeezed during a contraction. It is dangerous to squeeze a soft uterus. If hemorrhage does not require immediate removal, wait thirty to forty minutes, and then if Credé's maneuver is unsuccessful, manual removal is necessary.

The causes for retained placenta may be outlined somewhat as follows:

(a) Faulty contraction and retraction, or atony, of the uterus. Causes predisposing to this condition are multiparity, polyhydramnion, long labors with exhaustion of the uterus, prolonged anesthesia, and sedative drugs.

(b) Malformations of the placenta, chief of which is placenta membranacea and placenta succenturiata. In the former condition the placenta is much thinned out, and due to its lack of solidity, it is crumpled up inside the contracting uterus instead of becoming detached. This causes profuse hemorrhage. Manual removal may be very difficult. In the lateral condition the placenta has an accessory lobule or lobules which develop in the membranes at some distance from the main placenta. Ordinarily it is united to the latter by blood vessels, but if these are lacking, it is called placenta spuria. It is often retained, and usually overlooked. It should be suspected if there is a roundish defect in the membranes a short distance from the placenta, with blood vessels leading to the margin of the tear. Even with slight hemorrhage the hand should be introduced to remove the structure.

(c) Abnormal adhesion of the placenta to the uterine wall.

(d) Hour-glass contraction of the uterus. This condition, also called Bandl's ring, is a constriction of the middle portion of the uterus. Manipulation immediately after delivery is the most frequent cause.

(e) An overdistended bladder is often an overlooked cause.

(f) Retained placenta may be an indirect result of syphilis.

(g) Widespread infiltration of the villous processes into the uterine muscle by which the placenta becomes an integral part of the uterine wall, or placenta accreta. This is a rare condition, the average incidence being one case in 15,000 deliveries. The exact cause is unknown. There is an entire, or almost entire, absence of the decidua basalis. The cause of the thinning of the decidua basalis in such cases is probably to be found in an insufficiently nourished endometrium. The osteopathic lesion may be a direct cause for this insufficiently nourished endometrium. Predisposing causes of placenta accreta may be curettage, cauterization and previous manual removal, and submucous myomata which may have caused pressure atrophy of the covering mucous membrane of the placenta. It may also be due to endocrinal failure, as progestin promotes a development of the decidua.

After waiting 45 minutes to one hour and both Credé's method and actual expression having been unsuccessful, manual removal is necessary. One must then diagnose whether the retention is simple or of the adherent type. The adherent type rarely occurs in a primipara, and in the absence of manipulations there is no hemorrhage, and the uterus is broad from side to side. With simple retention, there is usually spasmodic uterine bleeding, and the fundus is globe-shaped. The diagnosis of the adherent type and the placenta accreta may be more difficult. There is a line of cleavage in the adherent type and none in the accreta. Diagnosis should be made as soon as possible and with as little manipulation as possible.

The treatment of retained placenta first is preventive, by which is meant proper management of the entire pregnancy and particularly the third stage. A loss of up to 600 c.c. of blood following delivery may be considered normal. A loss of over 600 c.c. constitutes postpartum hemorrhage. The extremes of the volume lost by hemorrhage vary from 600 to 3500 c.c., the latter being incompatible with life. Several cases are recorded where recovery followed a loss of 2500 c.c. Hemorrhage is measured by the effect on the patient rather than by the volume of blood lost. Generally speaking the average woman can bear the loss of two liters without serious consequence. In a series of 19,290 cases recorded by DeLee, 6 per cent of the cases had a hemorrhage of 600 c.c or more. Two-thirds of them occurred with the delivery of the placenta and represented instances of mismanagement of the third stage. He believes that the incidence of postpartum hemorrhage can be greatly decreased by careful watching of the third stage of labor and by employing, in the absence of abnormalities, a "hands off" policy until complete separation occurs.

Occasionally the membranes do not immediately loosen and follow the placenta after spontaneous expulsion. Much traction on the placenta will cause tearing of the membranes, and the retained portion may not be long enough to extend to the outside, necessitating manual removal. A better procedure is to grasp the membranes close to the vulva with thumb forceps or hemostats. Slight traction is made and usually the membranes soon loosen. After they advance about one inch, they are again grasped close to the vulva, repeating this procedure until all are removed. This usually prevents tearing and insures complete removal.

For manual removal the patient should be brought to the side of the bed or table with the buttocks well over the edge. Assistants hold the legs in the lithotomy position. Everything must be at hand or within reach. Removal of a retained placenta is fairly simple. Removal of an accreta is one of the most dangerous in practice. The patient should be anesthetized. If much blood has been lost, very little anesthetic is required, but if there has been little hemorrhage and no shock, deep anesthesia is necessary. If time permits, the hand should be prepared as for an abdominal section, and sterile rubber gloves drawn on. If the hands are already gloved, a fresh pair should be put on. Proper preparation must be made, no matter how severe the hemorrhage. If

no gloves are available, disinfecting the hands and arm, and painting some antiseptic will prove a useful expedient. The parts are already prepared, but they should be liberally sponged again with antiseptic solution. The hand is slowly introduced into the vagina and follows the cord to the placenta, whereupon its border is located. The palmar surface of the fingers is kept toward the placental substance and gradually separates the placenta from the uterus. Whichever hand is the more dexterously used is introduced, and the other steadies the fundus through the abdominal wall. If possible the membranes are pushed in front of the fingers all around the margin of the placenta until it is completely detached. If great gentleness is exercised, this can usually be done without rupturing the membranes. In this way, after complete separation, the hand can be removed with the placenta without having touched the placental site, thus reducing the danger of infection. If an hour-glass contraction exists, the tips of the fingers should be brought together forming a cone which is gradually forced through the ring, relaxing it. Following removal, the secundines are examined to see if they are intact. It is best to make this examination because there may be retention of a portion of the placenta or membranes which will result in a putrid endometritis. This causes subinvolution and backward displacement, and predisposes to retention at subsequent deliveries. The membranes may be ragged due to being thin and friable, tearing easily, or due to a portion being retained. If the villi of the placenta do not easily fit together to cover any gaps, there is a possibility of a portion of one being retained. If there is a punched out place in the membranes and an open blood vessel leading to it, one should suspect placenta succenturiata.

If there is evidence of a piece of membrane or placenta being retained, should it be removed? Authorities agree that everything should be done with one introduction of the hand if possible. If a piece of placenta has been retained it must be removed. A piece of membrane larger than the palm of the hand had better be removed, or if conditions are fairly aseptic, one may renter the uterus for smaller pieces. If a portion of the membranes is retained, it is usually from the chorion, as the amnion is nearly always intact. Small pieces of membrane, in the absence of hemorrhage, may be left to come away with the lochia. For removal of pieces of membrane or placenta, the fingers scrape the inside of the uterus as a curet. If the placenta is not of the accreta type, but it is not possible to remove it, or if pieces of cotyledons or shreds of membranes are unavoidably left adherent on the uterine wall, a firm uterovaginal tamponade is made and the gauze removed in 24 to 48 hours. Missing portions often come away with the gauze. Infection combined with adherent placenta indicates hysterectomy. Manual removal is impossible in placenta accreta. Removal by morcellation results in rupture of the uterus, hemorrhage, sepsis and usually death. When the diagnosis of accreta is established, the treatment should be hysterectomy. Blood transfusion where there is severe hemorrhage is of the utmost importance.

In recent years an old method for the removal of an adherent placenta known as the Majon-Gabaston method has been revived. It consists in injecting the placenta with normal sterile saline solution through the umbilical vein of the cord. This has the effect of distending the villi of the chorion so that the placenta becomes ballooned up and is readily detached, with the assistance of Credé's maneuver and slight traction of the cord. In some descriptions it is stated that this results in the formation of a retroplacental hydroma, but unless there is extensive tearing of the placenta, an occurrence which cannot take place with an adherent placenta, little fluid escapes from the villi. The operation is very simple. The cord is cleansed for about 9 inches from the vulva with alcohol or bichloride of mercury. A needle is inserted into the vein and 300 to 400 c.c of saline solution is injected. It has been extensively employed in clinics in Europe.

With the assurance that the uterus is empty, 1 c.c. of pituitary extract is given. An intrauterine douche of normal saline (180 F.) may be given if necessary, but this is seldom required. If there is any doubt about the uterus being empty, or if there is a tendency to hemorrhage, packing the uterus is a wise procedure.

The gauze for the uterine pack is 10 yards long, and 4 inches wide. It may be inserted using the hands alone, or with the aid of uterine dressing forceps, or by sight by drawing the cervix down with vulsellum forceps and spreading the genitals by retractors, or with the aid of a packer.

Probably the last named method is best. There is less danger of introducing infection, and the only precaution is to avoid jamming the packer. The packer is introduced clear to the fundus, and the gauze is packed to all parts by shifting the packer as if spraying the inside of the uterus. Anesthesia usually is necessary. The fundus should be supported from above as this aids in packing firmly. When the uterine tamponade is complete the vagina is also packed. The pack is removed in 24 to 48 hours. It must be removed slowly, taking 20 to 30 minutes for the procedure.

Packing by sight is done only if there is sufficient help. To pack with forceps, the left hand lies in the vagina, palm up, to guide the gauze being introduced with the forceps held in the right hand. A vent must be left while packing to prevent the possibility of air embolism. When the uterus is full, the gauze is pressed in tight by the fingers of the left hand. About the same procedure is used when packing with the hands alone, except that the gauze is fed by the right hand instead of the forceps.

Manual removal of the placenta is an operation associated with an exceedingly high maternal mortality and morbidity rate. The dangers are infection and shock. Infection is prone to occur because organisms are so readily carried into the uterus and implanted on the raw placental site. The uterine cavity formerly was held to be sterile, but living organisms have been demonstrated in the gravid uterus. Therefore it would be possible for infection to occur without any organisms at all having been introduced. Shock is liable to occur because the hand has to be forced into the canal, and the patient, in most instances, has lost considerable quantities of blood. It is sometimes surprisingly easy to bore through the uterus, especially in cases that are exhausted from hemorrhage or infection. In cases of uterine rupture the intestines may prolapse and they have been pulled down and torn by efforts at placental delivery. Even the spleen has been pulled out for the placenta.

The operation of manual removal is far too frequently performed. If the third stage is managed properly, postpartum hemorrhage seldom occurs, and the placenta is seldom retained.

2940 Forest Ave.

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Diagnosis and Treatment

ELEVENTH AND TWELFTH RIBS*

H. E. LITTON, D.O.
Kirksville, Mo.

In school work we find that it is very easy to teach the student to diagnose lesions of the lowest two ribs, to appreciate their possible effects, and to understand the mechanics of correction; but it is extremely difficult to solve some of the actual problems in practice. These ribs are radically different from the other ribs, in that they are held in position to a great extent by the muscles to which they are attached. They articulate with the bodies of their respective vertebrae and contact with the transverse processes in the typical manner. These two bony articulations are, of course, very important in the support of the ribs and they may develop typical, pri-

*Delivered before the technic section, 38th A.O.A. Convention, Wichita, Kans., 1934. Dr. Litton gave practical demonstrations during his lecture.

mary lesions at the costotransverse articulations. However, when one studies the large number of muscles attached to the eleventh and twelfth ribs and cogitates a little on the variety of pulls which are transmitted to these ribs, it is not hard to appreciate the mechanical reasons behind some of the difficulties.

Posture also enters the picture, for all of us have seen patients with spines so kyphotic that the anterior portion of the thorax is almost "caved in". In such cases we find the lower ribs in contact with each other anteriorly, and sometimes overlapping, like the shingles on a roof. If the bad posture be found in a relatively young individual, it can be corrected readily. However, too many of these patients are old, and the posture is the result of senile changes. In these, about the best which can be accomplished is to extend the thorax gently and try to separate the ribs as much as possible.

The eleventh rib may be found tucked up under the tenth, pulled down in contact with the twelfth, moved downward at its distal portion in conjunction with the twelfth rib, or slightly rotated so that the distal end is down and the proximal portion is "up". The twelfth rib may occupy all of the lesion types outlined for the eleventh, but we must add that the last rib has a greater tendency to be pulled down at its outer end until it almost parallels the lumbar spine. Diagnosis is not difficult unless the patient is extremely fat or very ticklish. We find it easiest to locate the distal ends of the ribs and, comparing the right with the left, palpate the interspaces for approximations or separations. Very often, the ribs are pulled into lesions by muscle spasm. However, as a causative factor of such muscle spasm may be found vertebral lesions which should always be sought and corrected. The next step is to relax thoroughly the muscles which are in contraction. After this is done, the operator proceeds to return the rib to its normal position.

The method of correction is simple to state, but often difficult to apply. If the eleventh rib is up, one fixes the thumb or thenar eminence against the tenth rib and then applies a pull to the eleventh to bring it down. The pull on the eleventh is accomplished indirectly. One method is to have the patient face down, reach across and grasp the anterior superior spine, having in the meantime fixed the opposite hand against the tenth rib. Holding against the tenth, the pelvis is lifted upward and toward the operator. The force is transmitted through the pelvis, up the quadratus lumborum to the twelfth rib, through the intercostal muscles to the eleventh, pulling that down and stretching the intercostal muscles between the eleventh and tenth ribs.

If the twelfth rib is down, one proceeds as before in grasping the pelvis, but makes the contact with the other hand against the twelfth rib. The manipulation is the same except that one stretches the quadratus lumborum and at the same time endeavors to push the twelfth rib up to its proper place.

If the distal end of the rib is down and the proximal portion is up, we believe that the best results are achieved in devoting one's attention to forcing up the distal portion. We visualize this disturbance as a contraction of the muscles at the outer end of the rib, against a counter pull by the levatores costarum muscles, causing the rib to rotate. We make sure, however, in every instance that any fixation existing at the costotransverse articulation is corrected.

Book Notices

THE WAY OUT. By Frank D. Stanton, M.D., with an Introduction by L. E. Siegelstein, M.D. Cloth. Pp. 99. Richard G. Badger, 100 Charles St., Boston, Mass., 1933.

This little book by a former president of the American Osteopathic Society of Proctology, who also has been a leader in building up the American College of Proctology until that body decided to get along as best it could without osteopathic help, is written to instruct the public in ways of avoiding diseases of the digestive tract—particularly its terminal portions. There are fourteen chapters and a glossary. The subjects taken up are: Inhabitants of the Colon; Metabolism; Acidity; Putrefaction; Constipation or Obstipation; Laxatives and Purgatives; Enemas; Itching; Bleeding; Referred Pain; Hemorrhoids; Prolapse of the Rectum; Diverticulosis—Diverticulitis; Abscess and Fistula.

The contents are sane, sensible and readably presented. Much of the book is quotable, but we will confine ourselves to part of a paragraph in the chapter on Constipation:

"I have no patience with the person who wastes ten or fifteen minutes in the morning in front of a radio going through a lot of motions, injecting consciousness into his muscles, when he might well get his clothes on and start fifteen minutes earlier for work and have a healthful hike out in God's sunshine or storm. He is indulging in a lot of nonsensical frivolity, and, to use the vernacular, he is 'kidding himself to death.' If you, dear reader, want to exercise, let it be either play or work; for there is no other exercise that is worth the time taken to go through with it. Before this book is off the press it is probable that a great campaign will be started to put a stop to calisthenics in schools and colleges, and enable boys and girls, men and women, to take part in healthful, happy games, so that their minds, instead of being on their bodies, will be off their bodies, and so that nerves and muscles may function as they were intended to do. The only form of calisthenics that is justified is that applied therapeutically, under the direction of a physician trained in the correction of defects in structure. A child with a twisted spine may be much benefited by proper exercise under the direction of a specially trained doctor; but the practice of making children hyperconscious of their nerves and their muscles will soon take its place with the other erroneous customs due to the ignorances of the past."

Current Medical Literature

Abstracted by R. E. Duffell, D.O.

Tuberculous Tenosynovitis of the Hand

Michael L. Mason has contributed an extensive article on tuberculosis of the tendons of the hand to the September number of *Surgery, Gynecology and Obstetrics*, in which issue is published also a group of papers on hand infections by students and colleagues of Allen B. Kanavel, well known authority on hand surgery. Dr. Kanavel's textbook on *Infections of the Hand* is an authoritative work.

It is coincidental that this issue of THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION, page 117, should contain an article on acute hand infections by one of our young osteopathic surgeons.

The chronic side of hand infections, it is hoped, may be taken care of in this abstract.

Mason says that tuberculosis is the most frequent cause of chronic infection of the tendon sheaths of the hand. On account of the slow development and not infrequent absence of pain, there is a tendency on the part of both patient and physician to delay seeking adequate treatment.

In a study of 23 cases made by Mason, the initial symptom was swelling over the involved sheaths. In one-third of the cases, sensory or functional disturbance preceded the swelling. The sensory disturbance is characterized as a burning, tingling, or numbness; the functional as an inability to close the hand, either due to the swelling or the pain elicited on motion.

The swellings vary in consistency. Crepitus or grating is nearly always demonstrable when rice bodies are present. These are small bodies of granular fibrinous material which have undergone coagulation necrosis and may contain giant cells and occasionally the tubercle bacillus. The patient describes this condition as a sensation of shot being moved back and forth in a closed sac.

The prognosis is good if the case has not progressed to the stage of severe secondary infection. A case report of one patient revealed that many types of treatment had been given by both allopaths and osteopaths over a period of five years before a diagnosis of tuberculosis tenosynovitis of the radial and ulnar bursae was finally made.

The treatment of tuberculous tenosynovitis is radical excision of the diseased sheaths. A bloodless operative field is obtained by maintaining constriction with a

blood pressure apparatus at about 220 to 230 millimeters of mercury. The technic of the operation is fully explained in the text. In excising the infected sheaths, it may be necessary to remove portions of the tendons themselves and also bits of deep fascia and muscles in order to remove all tuberculous tissue. The tendons develop new sheaths within which they glide easily.

At the completion of the operation, the blood pressure cuff is deflated and all bleeding points stopped. Pressure is again applied and the incision closed. Drains are inserted. No splint is applied unless tendon repair indicates the need for immobilization.

The initial dressing is not changed for 48 to 72 hours after the operation, at which time the rubber drains are removed. Snug pressure dressings, using a large amount of fluffed-up gauze, are used for 5 to 6 days when they may be discontinued in favor of lighter dressings. The author states that physical therapy is not used routinely in the after-care. The patient is encouraged to use his hand for light use as soon as the wound heals and to spend much time in the sunlight and fresh air.

With reference to the etiology of tuberculous tenosynovitis in this study of 23 cases, Mason found evidence of other possible tuberculous lesions elsewhere in the body in only six. Five gave a definite history of tuberculous contacts. Eleven gave a history of trauma, but in all but three the time element was considered too short for the development of tuberculosis.

Thoughts on the Relief of Sciatic Pain

Clarence H. Heyman does not deny the existence of intra-articular sacro-iliac lesions, but suggests that pain commonly attributed to the sacro-iliac joint may arise as a result of an abnormality in the soft structures in that vicinity. He recites two case reports in *The Journal of Bone and Joint Surgery* for October, 1934, in which a simple muscle-and-ligament-stripping operation was done for the relief of sciatic pain. This operation consists of completely denuding the ligamentous as well as the muscular attachments of the posteriorsuperior spine and the lateral aspect of the posterior third of the ilium. Heyman states, "Theoretically, it may relieve pain in two ways: (1) by releasing the tension of the muscle and the strain at the site of the muscular or ligamentous attachments; (2) by relieving muscle spasm."

Current Osteopathic Literature

Abstracted by R. E. Duffell, D.O.

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30: No. 3 (September), 1934

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The Fifth Clinical Year.—p. 302.
Practicing Medicine Now and Then. J. L. Jones, D.O., Kansas City, Mo.—p. 307.
Chronic Irritable Bladder. George J. Conley, D.O., Kansas City, Mo.—p. 310.
Adenoids. L. R. Livingston, D.O., Kansas City, Mo.—p. 313.

Ionization for Hay Fever.—Livingston describes a local nasal treatment for hay fever. The treatment is based on the theory that there is a hyperest. etic condition of the nasal mucosa, which reacts to the presence of both seasonal pollens and animal emanations, dust, etc., and that if the resistance of the membrane can be built up, such irritants will not be effective in causing hay fever symptoms.

The treatment consists of packing the nose with cotton wool saturated with an electrolyte containing calcium salts. Into the midst of the packing a zinc electrode is inserted and connected with the positive pole of a galvanic apparatus. Instead of calcium salts, a one percent zinc sulphate solution, or a combination of zinc, cadmium and tin, has been used for the electrolyte. This method of treatment produces a heavy white or grayish membrane on the nasal mucosa. This membrane is not disturbed for three days, when, if it has not come away, it is gently removed with a pair of forceps. The nose is then sprayed with a bland shrinking spray for several days.

Livingston reports that he has used this treatment in quite a number of cases with satisfactory results, but the "systemic reactions are severe in some cases, while no more so than from the finger method or the various forms of packing."

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Operation for Deaf-mutism. F. J. Cohen, D.O., Wichita, Kans.—p. 28.
The Convention Report of the International Osteopathic Society of Ophthalmology and Otolaryngology. H. J. Marshall, D.O., Des Moines, Ia.—p. 31.
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Tape Worms. Clara Farr Achor, D.O., Brownwood, Tex.—p. 6.
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Instructions for Sacro-iliac Patients. Roberta Wimer-Ford, D.O., Seattle, Wash.—p. 11.
Pedal Philosophy. Guy T. Funk, D.O., Mooresville, N. C.—p. 12.

The Schilling Blood Count.—Last month Slater reviewed the history of the development of the Schilling blood count. This method of identifying and counting white cells is a reliable and practical diagnostic procedure which gives the physician an accurate picture of the patient's progress as his body attempts to overcome an invading organism.

In this second of a series of articles, Slater names the different types of neutrophils or "polys" that should be looked for on the slide and counted; and he describes how they should be arranged in relation to other white cells that should also be observed and counted. The neutrophilic cells involved in the Schilling count are as follows: Myelocyte; "Juvenile" or a myelocyte slightly older; "Stab" cell, a much older form; and the "Segmented" cell (an adult neutrophile). These cells together with other white cells are represented by the following symbols and are found normally, according to Schilling's figures, in the following percentages: Eosinophils, (E—1-4); Basophiles (B—0-1); Myelocytes (M—0); Juvenile (J—0); Stab (St—4); Segmented (Seg—63); Lymphocytes (L—23); Monocytes (M—4-8). Total white cell count, 5-10,000. Drawing a line between the segmented cells and the lymphocytes, Slater explains the theory of "shifts" as follows: He states that the pathologic blood picture is a shift from normal "by a regenerative change through the stimulation of production of normal juvenile forms, or by degenerative changes with the appearance of degenerative forms."

In most infections the neutrophiles respond first, then the monocytes and finally the lymphocytes.

In an infection that results in a favorable outcome, Schilling lists three phases in the "shift": (1) The neutrophilic battle phase, in which the neutrophilic percentage is raised in one or all four of its divisions, the eosinophiles disappear and the lymphocytic and monocytic percentages decrease. (2) The stage of monocytic defense, in which

there is a lessening of leukocytosis, reappearance of eosinophiles and more monocytes. This stage represents the time when the body and disease forces are evenly matched. (3) The stage of lymphocytic cure, in which there is a lymphocytosis, eosinophila, and subsidence of the nuclear "shift." This stage represents the conquering of the bacteria.

Should the infection take an unfavorable course, it will be shown in the blood picture by increasing evidences of neutrophilic degeneration, by the appearance of rarer types of neutrophiles, indicating the overpowering paralysis of the bone marrow.

Slater gives a chart showing the different phases and the approximate percentage of the types of white cells in each phase.

"Shifts" may be classified as regenerative or degenerative. A regenerative shift is one in which the percentage of immature cells increases as they go toward maturity. This may mean increasing toxemia or increased power of the body. If the white cell count falls with the continued progression, the prognosis is unfavorable. A degenerative shift is one in which there is fixation, usually of the Stab cells. This represents defective blood formation.

STATE BOARDS

Florida

A meeting of the State Board of Osteopathic Medical Examiners was held on October 2, 3 and 4, at St. Petersburg. Robert C. Heldt, Daytona Beach, was elected chairman; Dale C. Beatty, St. Petersburg, vice chairman; and Ralph B. Ferguson, Miami, reëlected secretary-treasurer. The other members of the board are Emmett Flynn, Tallahassee; Norval Brown, Tampa, and A. G. Chappell, Jacksonville.

Missouri

H. A. Gorrell, Mexico, has been appointed a member of the State Board of Osteopathy for a term ending May 1, 1939. The other members of the board are: H. E. Reuber, Sikeston; E. E. Holme, St. Joseph; Leon B. Lake, Jefferson City; and J. L. Allen, Kansas City. The officers are: President, Dr. Lake; vice president, Dr. Holme; and secretary-treasurer, Dr. Allen.

New Mexico

The names of the officers of the State Board of Osteopathic Examination and Registration were published in THE JOURNAL for October. The other members of the board are: H. S. Rouse, Roswell, and C. Merwin Bueler, Tucumcari. Dr. Bueler replaced H. E. Donovan, Raton.

West Virginia

The next meeting of the West Virginia State Board of Osteopathy will be held in Huntington, February 11 and 12, 1935, at the offices of Robert B. Thomas, 614 Union Bank Bldg. Application blanks may be secured from the secretary, Guy E. Morris, 542 Empire Bank Bldg., Clarksburg.

Conventions and Meetings

Announcements

American College of Osteopathic Surgeons, Wichita, Kans., October, 1935.

American Osteopathic Association, Thirty-ninth annual convention, Cleveland, week of July 22, 1935. Program chairman, Wallace M. Pearson.

California state convention, Fresno, May 9-11, 1935. Program chairman, Walter W. Hopps, Los Angeles.

Georgia state convention, Rome, June 7, 8, 1935.

Kansas state convention, Topeka, October, 1935. Program chairman, Lawton M. Hanna, Clay Center.

Montana state convention, Butte, September, 1935.

Nebraska state convention, McCook, September, 1935.

New England Osteopathic Association, Boston, May 3, 4, 1935.

Oklahoma state convention, Muskogee, 1935. Program chairman, H. C. Montague, Muskogee.

South Dakota state convention, Rapid City, June, 1935. Program chairman, Laurence S. Betts, Huron.

Tennessee state convention, Tullahoma, May, 1935. Program chairman, G. W. Stevenson, Springfield.

Texas state convention, Mineral Wells, May, 1935. Program chairman, Howard Coats, Tyler.

Vermont state convention, Brattleboro, October 2, 3, 1935. Program chairman, Arthur S. Bean.

West Virginia state convention, Clarksburg, June, 1935. Program chairman, Preston B. Gandy, Clarksburg.

AMERICAN COLLEGE OF OSTEOPATHIC SURGEONS

The annual convention of the College was held on October 1, 2 and 3 at Des Moines, Iowa. Demonstrations of surgical technic were held at the Des Moines General Hospital each morning. The afternoon sessions were devoted to diagnostic clinics and technical papers. Speakers on the program were as follows: George J. Conley, Kansas City, Mo., "Enterostomy"; H. L. Collins, Chicago, "The Status of Iodine in Thyroid Surgery"; E. G. Drew, Philadelphia, "The Grain Without the Chaff"; A. C. Johnson, Cleveland, "Total or Subtotal Hysterectomy?"; R. B. Bachman, Des Moines, "Operative Obstetrics"; O. F. Martin, Boston, Mass., "Radiation in Malignancy"; H. A. Fenner, North Platte, Nebr., "Case Histories in Transurethral Prostatectomies"; H. E. Lamb, Denver, "Case Histories in Elliott Heat Treatment"; H. C. Wallace, Wichita, Kans., "My Observations of Fever Treatment"; W. Curtis Brigham, Los Angeles, "Infantile Paralysis"; B. L. Cash, Des Moines, "X-ray Diagnosis."

Officers were elected as follows: President, Dr. Johnson; vice president, Dr. Wallace; secretary-treasurer, Dr. Martin; trustees, Dr. Conley, Dr. Drew and J. P. Schwartz, Des Moines.

The next annual session of the College will be held at Wichita, Kans.

CALIFORNIA

Hollywood Osteopathic Luncheon Club

A meeting of the club was held on October 9. Bernard Kavanaugh, Los Angeles, spoke on "Orificial Surgery."

Los Angeles Osteopathic Society

The program for the meeting on September 10, which was received too late for publication in THE JOURNAL for October, was given as follows: "Convention Reports," C. J. Gaddis, W. W. W. Pritchard, Ralph W. Rice and Edward S. Merrill; "Professional Liability Insurance," Mr. Raymond Nettleship, official broker for the A.O.A., and Charles Spencer, chairman, insurance committee, California Osteopathic Association; "Anterior Poliomyelitis at the Los Angeles County Osteopathic Hospital," H. S. Perry, Medical Director.

Pasadena Osteopathic Society

A breakfast was held on September 15 in honor of Thomas Ashlock, Palo Alto, newly elected president of the California Osteopathic Association. A large group of Pasadena, Los Angeles and Glendale osteopathic physicians attended. Dr. Ashlock spoke on organization matters for the coming year.

The first fall meeting this year of the Pasadena Osteopathic Society was held on September 20. Charles Spencer, Los Angeles, spoke on the subject of malpractice insurance. Edward S. Merrill, Los Angeles, stressed the value of membership in professional organizations. A motion picture on "Traumatic Surgery" was shown.

The October meeting was held on the 18th, the Monte Sano Hospital staff furnishing the program. W. Curtis

Brigham spoke on "Management of Acute Appendicitis" and Harry Brigham on "Newer Aspects of Anesthesia." A membership drive netted ten new members within the month.

San Diego County Osteopathic Association

A meeting of the association was held on October 5 at San Diego. Albert V. Kalt, Pasadena, spoke on the subject, "Osteopathic Neurological Problems."

San Jose District Osteopathic Society

The annual meeting of the society was held on September 22 at Monterey. Thomas Ashlock, Palo Alto, was the principal speaker.

Southern California

More than two hundred osteopathic physicians and surgeons of southern California were guests of the Mont Sano Hospital staff on September 19 at the eleventh annual venison dinner given in Los Angeles. The principal address was given by Municipal Judge Leroy Dawson.

COLORADO

State Association

The first fall meeting this year of the Colorado Osteopathic Association was held on September 22 at Colorado Springs.

IDAHO

Boise Valley Osteopathic Society

F. H. Thurston, Boise, reports that a meeting of the society was held on October 18 at Nampa in the home of O. R. Meredith. R. E. Cochran, Boise, presented a case report on epilepsy for study and discussion.

The 1933 offices were reëlected. They are: President, Dr. Cochran; vice president, Earl Warner, Caldwell; secretary-treasurer, D. W. Hughes, Boise.

ILLINOIS

Chicago Osteopathic Society

A meeting of the society was held on October 4. W. A. Schwab, Chicago, spoke on the subject, "Problems in Technic," and W. J. Deason of Wichita spoke briefly on his work in thermogenics.

North Shore (Chicago) Osteopathic Society

The first fall meeting this year of the society was held on October 5 at Evanston. Chester H. Morris, Chicago, spoke on and demonstrated osteopathic technic.

South Side (Chicago) Osteopathic Physicians' Society

The ninth annual meeting of the society was held on October 4. Officers were elected as follows: President, F. C. Brandenburg; secretary-treasurer, Mary Alice Hoover.

On October 11, J. S. Denslow addressed the society on "Methods of Diagnosis," and on October 18, L. C. Hanavan demonstrated the Aschheim-Zondek test for pregnancy.

Chicago—West Suburban Osteopathic Society

A meeting of the society was held on October 20 at the residence of Erich Frankowsky, Oak Park. Miss Tirzah S. King, formerly of the A.O.A. editorial staff, gave an illustrated account of an automobile trip in southern Africa.

Second District Osteopathic Association

The quarterly meeting of the association was held on October 4 at Dixon. Robert Clarke, Chicago, president of the state society, spoke on the osteopathic plan of emergency relief. Ralph E. Curry, Sycamore, presented a paper on obstetrics and N. W. Shellenberger, Rockford, read a paper on nerve degeneration.

Officers were elected as follows: President, Ralph Curry, Sycamore; vice president, B. J. Snyder, Fulton; secretary-treasurer, W. A. McClimans, Sycamore.

Third District Illinois Osteopathic Association

The first fall meeting of the association this year was held on September 20 at Galesburg. Robert Clarke, Chicago, was the principal speaker. The first part of his talk was devoted to organization affairs and the second part to the various diagnostic signs of heart disease.

The present staff of officers was elected to serve until May, 1935. They are: President, F. M. Tracy; vice president, H. H. Halladay; secretary-treasurer, E. O. Larson.

Fourth District Illinois Osteopathic Association

A meeting of the association was held on September 27 at Peoria. Robert Clarke, Chicago, lectured on "Coronary Thrombosis."

D. E. Sperry, Peoria, was elected president.

INDIANA

State Association

The annual convention of the Indiana Osteopathic Association was held in Indianapolis October 24 and 25, too late to be reported in this JOURNAL. The convention had originally been scheduled for October 10 and 11 at French Lick.

St. Joseph Valley Osteopathic Association

A meeting of the association was held on September 26 at South Bend. A. E. Willis, M.D., discussed the present status of x-ray diagnosis.

IOWA

Polk County Osteopathic Association

A meeting of the association was held on September 14. F. A. Gordon, Marshalltown, president of the state association, outlined the year's program.

On October 2 the society gave a dinner at Des Moines, honoring the visiting surgeons to the convention of the American College of Osteopathic Surgeons.

First District Iowa Osteopathic Association

The first fall meeting of the society this year was held on October 4 at Cedar Rapids. H. C. Wallace, Wichita, Kans., was the principal speaker and his subject "Emergencies." F. A. Gordon, Marshalltown, gave a report of the national convention. Other reports were given by J. J. Henderson, Toledo; S. A. Helebrant, Cedar Rapids, and C. K. Risser, Maquoketa.

Officers were elected as follows: President, Ralph E. Brooker, Grinnell; vice president, Zoa May Munger, Cedar Rapids; secretary-treasurer, Dr. Risser; trustees, Theodore Tueckes, Davenport, and Dr. Henderson.

Second District Iowa Osteopathic Society

A meeting of the society was held on October 4 at Council Bluffs. E. G. Drew, Philadelphia, gave the principal address, on the subject, "Modern Treatment of Cancer."

Third (Southeastern) District Iowa Osteopathic Association

A meeting of the society was held on October 4 at Ottumwa. A. C. Johnson, Cleveland, was the guest speaker, on the subjects "Obstetrics" and "Thyroid Disease."

Fourth District Iowa Society of Osteopathic Physicians and Surgeons

A meeting of the society was held on October 4 at Iowa Falls. The principal speaker was George J. Conley, Kansas City, Mo., on the subject, "Bedside Diagnosis of Physical Disorders."

Fifth District Iowa Osteopathic Association

The semi-annual meeting of the association was held on October 5 at Sioux City. W. Curtis Brigham, Los Angeles, was the guest speaker, on the subject, "Cancer."

Officers were elected as follows: President, D. C. Giehm, Sioux City; vice president, M. E. Green, Carroll; secretary-treasurer, Alice Paulsen, LeMars; trustee, Mathel G. Hospers, Orange City.

Sixth District Iowa Osteopathic Association

Grace B. Nazarene, Dallas Center, reports that a meeting of the association was held on October 4 at Adel. W. Curtis Brigham, Los Angeles, was the principal speaker, on the subject, "Viscero-Somatic Reflexes." He also gave a report on the work being done at the Los Angeles County Osteopathic Hospital in connection with the care of infantile paralysis.

Officers were elected as follows: President, John M. Woods, Des Moines; vice president, J. H. Hansel, Ames; secretary-treasurer, Dr. Nazarene; state trustee, Mary E. Golden, Des Moines; legislative member, P. L. Park, Des Moines; district trustees, James E. Gray, Newton, and James A. Humphrey, Des Moines.

KANSAS

State Association

The annual convention of the Kansas State Osteopathic Association was held on October 7, 8 and 9 at Manhattan. The following program was given: On Sunday, October 7, there was an educational group conference of divisional secretaries directed by R. C. McCaughan, Executive Secretary of the A.O.A. Also an educational conference of chairmen of divisional committee and local society officials. On Monday, October 8, a clinic was held in the office of Guss C. Salley. The scientific program included talks by R. C. McCaughan, "Osteopathy's Necessities;" Virgil Halladay, Des Moines, "The Basis of Osteopathy," and "Orthopedics and Osteopathy." A banquet was held in the evening. On Tuesday, October 9, Quintos W. Wilson, Wichita, spoke on the subject "Osteopathy and Endocrines;" George J. Conley, Kansas City, Mo., "The Gall Bladder and Stomach;" Mary Quisenberry, Salina, "Diet." Dr. Conley also spoke on "Pathology of the Uterus" and Dr. Wilson on "Pediatrics." Topeka was chosen as the convention city for 1935.

Officers were elected as follows: President, James B. Donley, Kingman; vice president, I. E. Nickell, Smith Center; secretary-treasurer, Raymond L. DeLong, Wichita, reëlected; editor and statistician, Dr. DeLong; trustee, Earl H. Reed, Topeka, reëlected; delegate to A.O.A. convention, Thomas B. Powell, Larned, alternate, Clyde Gray, Horton. Committee chairmen have been appointed as follows: Professional affairs, Dr. Nickell; public affairs, Dr. Reed; membership, J. F. Dinkler, Emporia; professional education and development, Karl M. Pearson, Kansas City; student recruiting, R. Raymond Wallace, Caldwell; convention program, Lawton M. Hanna, Clay Center; convention arrangements, general, Dr. DeLong, local, Dr. Reed; hospitals, H. C. Wallace, Wichita; censorship, P. W. Gibson, Winfield; legislation, F. M. Godfrey, Topeka; industrial and institutional, Fred E. Dunlap, Pleasanton; public health and education, E. F. Pellette, Liberal; clinics, Fred J. Cohen, Wichita; publicity, Charles C. Boyle, Bennington; osteopathic exhibits, H. S. Pickering, LaCrosse; constitution and by-laws, Dr. DeLong; nominating, Clyde Gray, Horton.

Central Kansas Society of Osteopathic Physicians and Surgeons

A meeting of the society was held on September 20 at Herington. F. J. Cohen, Wichita, spoke on eye, ear, nose and throat conditions, Q. W. Wilson, Wichita, gave an address on "Endocrine Disturbances in Children," and I. E. Nickell, Smith Center, explained the Elliott treatment.

Topeka Osteopathic Association

A meeting of the association was held on October 4.

Verdigris Valley Osteopathic Association

A meeting of the association was held on October 17 at Neodesha. The program, as published in advance, included a talk on proctology by J. E. Freeland, Coffeyville, and one by A. E. DuMars, Coffeyville, on feet. A foot clinic was also held.

Wichita Osteopathic Society

A meeting of the society was held on October 3. F. J. Cohen spoke on the subject, "Are You Hearing Everything?" and E. N. Rhoades, "Nervous Mechanism of Taste."

MAINE

State Association

The fall meeting of the Maine Osteopathic Association was held on October 6 at Lewiston. The scientific program, as published in advance, was as follows: "Athletic Injuries," Leslie Wm. Spaulding, South Windham; "Obstetrics," Granville C. Shibles, Westbrook; "Medical Jurisprudence," Albert E. Chittenden, Auburn; "The Lymphatics," Lloyd W. Morey, Millinocket; "Bright's Disease," F. A. Parisi, Yarmouth; "Whooping Cough," John Otis Carr, Bucksport. Orel F. Martin, Boston, exhibited motion pictures on fractures. Gerald L. Kneeland, Biddeford, outlined the osteopathic treatment for nerve deafness.

Central Maine Osteopathic Society

Olga H. Gross, Pittsfield, reports that a meeting of the society was held on October 14 at Pittsfield. Mr. J. B. Kelly, research director of the New York Institute for the Blind, was the speaker.

Northern Maine

L. E. Bilodeau, Danforth, reports that a preliminary meeting was held by osteopathic physicians of Northern Maine on September 13 at Danforth for the purpose of forming a district association. A committee was appointed to make plans for the next meeting, including the nomination of officers.

MICHIGAN

Detroit Association of Physicians and Surgeons of Osteopathic Medicine, Inc.

R. K. Homan, Detroit, reports that the first fall meeting this year of the association was held on October 10. Hugh W. Conklin, Battle Creek, was the principal speaker.

The November meeting will be held on the 21st. Mr. Duford, former Compensation Insurance Commissioner of Michigan, will be the speaker.

Southwestern Michigan Osteopathic Association

A meeting of the association was held on September 20 at Hartford. H. Willard Brown, Chicago, and Donald Grow, Queen City, Mo., were the principal speakers.

Washtenaw County Osteopathic Society of Osteopathic Physicians and Surgeons

A meeting of the society was held on October 11 at Chelsea, at the home of L. J. Paul.

George Mickle, Ann Arbor, will be host at the next meeting, to be held on November 8.

MIDDLE ATLANTIC STATES OSTEOPATHIC ASSOCIATION

The annual meeting of the association was held on September 21 and 22 at Washington, D. C. The scientific program was given in part by members of the faculty of the Philadelphia College of Osteopathy. A symposium on the "Diagnosis of Mitral and Aortic Valvular Diseases" was given by Otterbein Dressler, Wilbur Lutz, Ralph L. Fischer and Paul T. Lloyd, all of Philadelphia. The subject of "Office Gynecology" was discussed by Carlton Street; "Treatment of the Toxic Thyroid" by Drs. Street, Dressler, Lutz, Fischer and F. A. Long; "Principles of Osteopathy," Dr. Long; "Anemias," by Drs.

Lloyd, Dressler and Fischer; "Office Surgery," Dr. Street. Demonstrations in technic for the lower extremities were given by George Rothmeyer, Philadelphia. A symposium on the "Spine" was given by Drs. Lloyd, Long, Dressler, Street and Rothmeyer. "Osteopathic Research," by Dr. Long; "Athletic Injuries," by Drs. Street and Lloyd; "Osteopathic Technic of the Lower Back," by Dr. Rothmeyer; a symposium on the "Treatment of Constipation," by Drs. Rothmeyer, Lloyd and Dressler; "Cardiorenal Disease," by Drs. Dressler, Lutz and Fischer; "Foot Technic," by Dr. Rothmeyer.

Officers were elected as follows: President, A. H. Zealy, Goldsboro, N. C.; vice president, O. L. Miller, Harrisonburg, Va.; secretary-treasurer, Felix D. Swope, Washington, D. C.; chairman convention program, Dr. Swope.

The Virginia Osteopathic Association held its annual meeting in connection with that of the Middle Atlantic States Osteopathic Association. (See Virginia.)

MINNESOTA

Southern District

The annual convention of the Southern District of the Minnesota Osteopathic Association was held on October 12 and 13 at Owatonna. The speakers, as scheduled in advance, were as follows: Leslie Keyes, Minneapolis; Karl Burch, Wabasha; George Alexander, Redwood Falls; Edwin Versema, Mankato; William H. Albertson, Austin; Charles E. Mead, Red Wing; Philomena Wiewel, Wells; Ruby Idtse, Minneapolis; John Voss, Albert Lea.

Tri-County Society of Osteopathic Physicians and Surgeons

C. E. Stoike, Zumbrota, reports that the regular monthly meeting was held on October 11 at Zumbrota. The meeting was devoted to a general discussion.

The November meeting will be held in the office of C. H. Sawyer at Lake City.

MISSOURI

State Association

The thirty-fourth annual convention of the Missouri Association of Osteopathic Physicians and Surgeons was held on October 3, 4 and 5 at Kansas City, Mo. The convention program as published in advance was as follows: "President's Address," Anita Bohnsack, Cape Girardeau; "Address," R. C. McCaughan, Executive Secretary of A.O.A.; "Hospitals, Their Development and Promotion," F. P. Walker, St. Joseph. The scientific program was as follows: "Diagnosis and Treatment of Ulcers in the Sigmoid and Colon," Roy M. Wolf, Kirksville; "Strabismus," A. C. Hardy, Kirksville; "Senile Psychoses," Fred M. Still, Macon; "Technic—Actual Primary Short Leg," J. V. McManis, Kirksville; "Ascheim-Zondek Test as a Differential Diagnosis in Pregnancy," H. A. Gorrell, Mexico; "Technic and Demonstrations," O. L. Dickey, Joplin, A. B. King, St. Louis, and Dr. McManis; "Osteopathy's Necessities," Dr. McCaughan; "The Roentgen Ray Diagnosis of Chronic Appendicitis and Its Relationship With Gastric and Duodenal Dysfunction," Charles J. Karibo, St. Joseph; "Vasectomy in Relation to Prostate Hypertrophy," by George M. Laughlin, Kirksville; "Surgical Diabetes," E. H. Owen, Harrisonville; "Osteopathy—A Fad—A Fancy—A Fact," E. D. Holme, St. Joseph; "Surgical and Non-Surgical Treatment of Gall Bladder Diseases," M. S. Slaughter, Webb City; "Fundamental Osteopathic Principles as the Basis of Practice Building," A. G. Hildreth, Macon; "Heart Diseases in Which Pain Is a Presenting Symptom," Arthur D. Becker, Kirksville; "The X-Ray in Gastroenterology," Walter Bailey, St. Louis; "The Modern Trend of Surgery," Earl Laughlin, Jr., Kirksville; "Intestinal Toxemia," O. G. Weed, St. Joseph; "High Blood Pressure Treated Osteopathically," Grace Simmons, Milan; "The Toxemias of Pregnancy," John H. Denby, Kirksville; "Agranulocytic Angina—Discussion of the Dangers Attending Use of Dinitrophenal and Certain Other Drugs," H. E. Litton, Kirksville; "Anal Fissures and Complications," Gus S. Wetzel, Clinton; "Gastric and Duodenal Ulcers," Albert B. Wheeler, Carthage; "Round Table Discussion," Dr. Bailey, Lou T. Noland, Springfield, and A. B. King, St. Louis.

Officers were elected as follows: President, L. S. Larimore, Kansas City; first vice president, Dr. Bailey; second vice president, Dr. Noland; secretary-treasurer, Dr. Litton, reëlected; trustee, T. O. Pierce, St. Joseph; delegates to the national convention, Fred Still, Macon, and Q. L. Drennan, St. Louis.

Buchanan County Osteopathic Association

Meetings of the association were held on September 21 and September 28 at St. Joseph. At the former meeting, F. P. Walker, St. Joseph, gave an illustrated lecture on bone fractures. Blanche Rennick, president of the association, appointed osteopathic physicians to serve athletic teams of the St. Joseph high schools. At the latter meeting a committee was appointed to invite the state convention to St. Joseph next year.

Kansas City Society of Osteopathic Physicians and Surgeons

The final meeting of the fiscal year was held on September 18. The new officers, elected at a meeting held on June 19, were installed. Committee chairmen have been appointed as follows: Professional education, H. J. McAnally; hospitals, George J. Conley; censorship, C. A. Povlovich; student recruiting, G. H. Houston; public health and education, Dr. McAnally; clinics, Kansas City College of Osteopathy; publicity, Dr. Houston; convention program and arrangements, E. O. Fisher; legislation, David S. Cowherd; professional development, Kansas City College of Osteopathy.

North Central Missouri Osteopathic Association

The regular quarterly meeting of the association was held on September 20 at Gallatin. T. O. Pierce, St. Joseph, was the principal speaker, on the subject, "The Needs of Osteopathy." Short talks were also made by E. D. Holme, St. Joseph; F. B. Bailey, Jamesport; Professor W. L. Morgan, and Rev. C. W. Smith.

Officers were elected as follows: President, M. E. Elliott, Chillicothe; vice president, H. H. Potter, Brookfield; secretary-treasurer, E. W. Simpson, Milan.

Northwest Missouri Osteopathic Association

The annual meeting of the association was held on September 13 at St. Joseph. Mr. Spencer France, manager of the St. Joseph Retail Credit Bureau, was the principal speaker. H. N. Topson, St. Joseph, led a round table discussion.

Officers were elected as follows: President, H. P. Juvenal, Maryville; vice president, R. K. Glass, Fairfax; secretary-treasurer, R. H. Hurst, King City; chairman of program committee, E. D. Holme, St. Joseph. The November meeting will be held on the 8th at Maryville.

Ozark Osteopathic Association

U. Louise Remmert, Springfield, reports that a meeting of the association was held on October 8 at Springfield. The officers, all of Springfield, were reëlected. They are: President, I. L. James; vice president, William L. Wetzel; secretary-treasurer, Lou Tway Noland; publicity chairman, Dr. Remmert.

St. Louis Osteopathic Association

G. C. Bartholomew, St. Louis, reports that a meeting of the association was held on October 16. C. C. Wageley presented a paper on osteopathic technic. A clinic was held under the direction of Irl R. Hicks. A patient was presented, history of the condition given and examination made by Dr. Wageley and other members. Walter E. Bailey exhibited roentgenographs bearing on the case. James D. Hicks, chairman of the hospital committee, reports plans going ahead slowly for the establishment of a hospital.

The November meeting will be held on the 20th.

Southwest Missouri Osteopathic Association

Ottis L. Dickey, Joplin, reports that a meeting of the association was held on September 19 at Carthage. Dr. Dickey presented motion pictures of the A. T. Still memorial services held at Baldwin, Kans., last summer; also pictures of foot technic given at the Wichita convention.

Officers were elected as follows: President, Howard Welch, Joplin; vice president, E. W. Weygandt, Joplin; secretary, C. F. Gregory, Webb City; treasurer, M. A. Davis, Carthage. The latter two were reëlected.

The next meeting will be held on November 21 at Springfield with members of the Ozark Osteopathic Association.

West Central Missouri Osteopathic Association

G. E. Darrow, Buckner, reports that a meeting of the association was held on September 20 at Grain Valley. J. O. Pence, Kansas City, lectured on "Intravenous Injections."

Officers were elected as follows: President, Gus S. Wetzel, Clinton; vice president, E. H. Owen, Harrisonville; secretary-treasurer, Glenn E. Darrow, Buckner; trustees, Edith Salmon, Appleton City, Clarence Sunderworth, El Dorado Springs, Edwin Holbert, Sedalia.

The next meeting will be held on November 8 at Harrisonville.

MONTANA

State Association

The names of the officers of the Montana Osteopathic Association were published in THE JOURNAL for October. Asa Willard, Missoula, and George M. McCole, Great Falls, were chosen delegate and alternate to the national convention. Committee chairmen have also been appointed as follows: Membership, Jack Cox, Lewistown; professional education, E. L. Bergstrom, Great Falls; hospitals, George Payne, Columbus; censorship, H. M. Lamp, Deer Lodge; student recruiting, J. G. Husted, Great Falls; public health and education, Blanche Diestler, Big Sandy; industrial and institutional service, R. A. Elliott, Forsyth; clinics, F. Allen Barnes, Butte, and James A. Keller, Butte; publicity, Paul I. Needham, Butte, and Gordon Dutt, Great Falls; statistics, C. W. Starr, Billings; convention program, Dr. Barnes; convention arrangements, Dr. Barnes; legislation, Dr. Willard; professional development, W. E. Dean, Bozeman; displays at fairs and expositions, L. D. Barbour, Three Forks.

Great Falls Osteopathic Association

Officers and committee chairmen recently selected are as follows: President, George M. McCole; vice president, R. H. Armond; secretary, E. L. Bergstrom; treasurer, Gordon Dutt; membership, E. S. Edwin; professional education, J. G. Husted; hospitals, Dr. Edwin; censorship, Dr. Bergstrom; student recruiting, Dr. Armond; public health and education, S. W. Bailey; industrial and institutional service, F. P. O'Reilly; clinics, Dr. Bergstrom; publicity, Dr. Dutt; statistics, Dr. Dutt; convention program, Dr. McCole; convention arrangements, Dr. Bergstrom; legislation, Dr. McCole; professional development, Wilda Husted; displays at fairs and expositions, Wilda Husted.

NEBRASKA

State Association

The program for the thirty-fifth annual convention of the Nebraska Osteopathic Association was published in THE JOURNAL for October. Officers were elected as follows: President, J. Tilton Young, Fremont; vice president, G. L. Montgomery, McCook; secretary, I. D. Gartrell, Clay Center, reëlected; treasurer, Angela McCreary, Omaha, reëlected; delegate to the national convention, Dr. Gartrell; alternate, Dr. McCreary.

The 1935 convention will be held at McCook.

NEW HAMPSHIRE

State Society

Eva W. Magoon, Troy, reports that the meeting of the New Hampshire Osteopathic Society was held at Templeton, Mass., on September 21, in connection with the meeting of the New England Osteopathic Association. A few business matters were attended to.

NEW JERSEY

State Society

The regular monthly meeting of the New Jersey State Osteopathic Society, Inc., was held on October 13 at Newark. The members voted opposition to a proposed plan to confine treatment of members of the American Legion in that state to members of the county and state medical societies.

Speakers at the meeting were Robert D. Patterson, Spring Lake, former director of the Spring Lake Emergency Squad, who described his experience in treating Morro Castle survivors; Arvid Valdane, New York City; L. M. Bush, New York City; Vernon Still, Elizabeth; Fred Morris, Glen Rock, and LeRoy Archbold, Patterson.

Essex County Osteopathic Society

The regular monthly meeting of the society was held on September 25 at Bloomfield in the office of O. M. Walker. H. J. Hoyer, South Orange, spoke on "Office Efficiency." Case reports were given by H. L. Chiles, Orange, and J. F. Maxfield, Newark. This was followed by an open forum.

The October meeting of the society was held at the offices of J. A. Atkinson, Montclair, on the 16th.

Hudson County Osteopathic Society

The annual meeting was held October 3 at Union City. Addresses on the osteopathic diagnosis and treatment of acute and chronic diseases and athletic injuries were given by C. B. Ackley, Union City; H. V. Manchester, Bayonne; Cora Belle Molyneux, Jersey City; W. F. True, Bayonne; D. P. Donovan, Bayonne.

Officers were elected as follows: President, Dr. Ackley; vice president, David Steinbaumn; secretary-treasurer, Olive M. Stretch; trustees, Dr. Donovan and Dr. True. Committee chairmen were appointed as follows: Educational, A. J. Molyneux, Jersey City; program, Dr. Donovan; legislation, Dr. Steinbaum; membership, Dr. Manchester.

Mercer County Osteopathic Society

Alice M. Bowden, Trenton, reports that the first fall meeting this year was held on September 12 at the offices of J. M. Bowden, Trenton. A special meeting was held on September 21 at which time a motion picture entitled "Mechanism and Management of Labor" was shown.

NEW MEXICO

Albuquerque

The usual tri-monthly clinic was held at the office of Margaret C. Brewington, Albuquerque, August 27, 28 and 29. Those assisting were I. D. Miller, Denver, Colo.; L. M. Pearsall and H. Head, both of Albuquerque.

NEW YORK

State Society

Edward L. Spitz-Nagel, Rochester, reports that the thirty-sixth annual convention of the New York Osteopathic Society, Inc., was held on October 13 and 14 at Rochester. The program was given by the members of the faculty of the Philadelphia College of Osteopathy:

October 13, "Anatomy and Physiology of the Gastrointestinal Tract," George S. Rothmeyer; "Laboratory Procedures Commonly Used in Diagnosis of Gastrointestinal Diseases," Otterbein Dressler; "Differential Diagnosis—Peptic Ulcer, Gastric Carcinoma, Gastritis," Earl H. Gedney; "Roentgen Diagnosis—Peptic Ulcer, Carcinoma, Gastritis," Paul T. Lloyd; "Treatment of Ulcer, Carcinoma, Gastritis," Dr. Rothmeyer; "Demonstration of Manipulative Treatment of Peptic Ulcer, Gastric Carcinoma, Gastritis," C. Haddon Soden, assisted by Drs. Rothmeyer, Gedney, Lloyd and Dressler; "Peritonitis and Peritonism," Dr. Rothmeyer; "Acute and Chronic Appendicitis," Dr. Gedney; "Gastrointestinal Neoplasm," Dr. Dressler; "Diagnosis of Intestinal Ileus and Stenosis," Dr. Rothmeyer; "Roentgen Diagnosis—Intestinal Tract," Dr. Lloyd; "Osteopathic Technic Demonstrations," Dr. Soden, assisted by Drs. Rothmeyer, Gedney, Lloyd, Dressler. October 14: "Differential Diagnosis, Diseases of Liver," Dr. Rothmeyer; "Diagnosis of Gall-Bladder Disease," Dr. Gedney; "Diagnosis, Gall-Bladder Drainage and Value of Liver Function Tests," Dr. Dressler; "Roentgen Examination in Gall-Bladder Disease," Dr. Lloyd; "Treatment of Liver and Gall-Bladder Disease," Dr. Rothmeyer; "Demonstration of Manipulative Treatment of Liver and Gall-Bladder Disease," Dr. Soden, assisted by Drs. Rothmeyer, Gedney, Lloyd and Dressler; "Athletic Injuries," by the group on the faculty of the Philadelphia College of Osteopathy.

As a novel and unusual attraction of this convention the Rochester District Society had obtained ninety prizes from the commercial exhibitors consisting of various articles useful for the doctor in his office.

Officers were elected as follows: President, M. Lawrence Elwell, Rochester; vice president, Blanche Corlis, Medina; secretary, Allen S. Prescott, Syracuse; treasurer, Geraldine W. Wilmot, New York City; membership secretary, Edith E. Dovesmith, Niagara Falls; sergeant at arms, Robert C. Warner, Utica; board of directors, Alexander Levitt, Brooklyn, chairman; H. Van Arsdale Hillman, New York City; Albert W. Bailey, Schenectady; John R. Miller, Rome; Claude M. Bancroft, Canandaigua; educational committee chairman, Thomas R. Thorburn, New York City; compensation committee chairman, Dr. Bailey.

An international flavor was given to this convention by the Ontario Association of Osteopathic Physicians and Surgeons whose members registered in a body and held their deliberations in connection with the state convention.

Central New York Osteopathic Society

Fred I. Gruman, Syracuse, reports that the first fall meeting of the society was held on October 5 at Syracuse. W. T. Dowd and J. R. Miller, Rome, discussed the problems of the osteopathic physician working in hospitals maintained by public funds.

Officers were elected as follows: President, T. T. Bassett, Syracuse; vice president, Angie Hughes, Utica; secretary, Dr. Gruman; treasurer, Edward Prescott, Syracuse.

Hudson River North Osteopathic Society

The first fall meeting of the society this year was held on September 29 at Glens Falls. Gladys Smiley, Albany, read a paper on "Diabetes." Albert W. Bailey, Schenectady, appointed a nominating committee.

Osteopathic Society of the City of New York

The September meeting was held on the 29th.

The October meeting was held on the 20th. The speaker of the evening, as published in advance, was C. S. Green, New York, and his topic, "Body Mechanics and Osteopathy." Discussions were led by Mildred E. Perkins and Charles E. Fleck, both of New York City. A short talk was given by Harold C. West, New York, on "We Meet Another Crisis."

Western New York Osteopathic Association

E. R. Larter, Niagara Falls, reports that the October meeting of the association was held on the 6th at Buffalo. Howard B. Herdeg, Buffalo, gave a talk on "Disturbances of the Thyroid Gland."

OHIO

Ashtabula Osteopathic Society of Physicians and Surgeons

A meeting of the society was held on September 26 at Geneva. Wallace M. Pearson, Cleveland, was the principal speaker and his subject, "Comparative Therapeutics."

Southeastern Ohio Osteopathic Society

The regular monthly meeting of the society was held on October 2 at McConnelsville. Louis Mark, M.D., Director of Rocky Glen Sanitarium at McConnelsville, was the principal speaker, his subject, "Early Stages of Tuberculosis."

On September 2, the following officers were elected: President, L. F. Licklider, Zanesville; vice president, Harry M. Rothman, Shawnee; secretary-treasurer, W. G. Barbee, New Lexington; trustee, H. L. Benedict, Marietta; program committee, Donald B. Sheets, Hamilton, and Cecil Musselman, Zanesville.

Second (Cleveland) District Osteopathic Society

C. A. Purdum, Cleveland, reports that the regular monthly meeting of the society was held on October 1. Harold E. Clybourne, Columbus, gave an address on the treatment of foot conditions.

Fourth (Columbus or Central Ohio) Osteopathic Society

Frances L. White, Columbus, reports that a meeting of this society was held on October 4. J. O. Watson, Columbus, gave a report of the House of Delegates meeting at the national convention. Harold E. Clybourne, Columbus, spoke on the importance of foot work. Mark M. Loveland, Bucyrus, president of the society, appointed C. F. Rauch, Logan, as clinical reporter.

Fifth (Dayton) District Osteopathic Society

Elizabeth E. Leonard, Dayton, reports that a meeting of this society was held on September 26 at Dayton. James O. Watson, Columbus, spoke on the subject, "Management of Spastic Constipation."

Sixth (Cincinnati) District Osteopathic Society

A meeting of the society was held on September 13 at Cincinnati. Heber Dill, Dayton, spoke on the subject, "Cardio-Vascular Diseases."

OKLAHOMA

Kay County Osteopathic Association

D. A. Shaffer, Ponca City, reports that the regular monthly meeting of the association was held on September 20 at Blackwell. The meeting was devoted to a discussion of proposed legislation for the coming year.

The names of the officers of the association were published in THE JOURNAL for August. Committee chairmen have been appointed as follows: Membership, F. C. Davis, Tonkawa; professional education, W. A. Laird, Ponca City; hospitals, W. W. Palmer, Blackwell; student recruiting, Dr. Shaffer; public health and education, Dr. Laird; industrial and institutional service, Dr. Laird; clinics, R. V. Barrick, Blackwell; publicity and statistics, Dr. Barrick; convention program, convention arrangements, legislation, Dr. Shaffer.

OSTEOPATHIC SOCIETY FOR THE ADVANCEMENT OF PHYSIOTHERAPY

A meeting of the society was held on October 14 at Doylestown in the offices of George T. Hayman. The morning session was devoted to a reading and discussion of papers presented by the various doctors in attendance. The afternoon session was devoted to clinical demonstrations. Guy W. Merryman, Collingswood, N. J., was in charge of the clinics.

The November meeting is to be held at Wilmington, Del.

OSTEOPATHIC SOCIETY OF AMBULATORY SURGERY

A meeting of the society was held on October 7 at Northfield, Minn., in the offices of Robert H. Clark. Arthur Taylor, Stillwater, Charles E. Stoike, Zumbrata, Albert Lewis, Faribault, and Dr. Clark conducted a clinic.

The November meeting will be held on the 4th at Little Falls.

PENNSYLVANIA

Lehigh Valley Osteopathic Society

The September meeting was held on the 20th at Easton. C. Haddon Soden, Philadelphia, gave an address on "The Basic Principles of Osteopathy." Following his address Dr. Soden spent an hour demonstrating osteopathic mechanics.

The October meeting was in the form of a banquet and dance at Pocono Manor Inn, Stroudsburg, on October 6.

Philadelphia County Osteopathic Association

A meeting of the association was held on October 18. The program consisted of motion pictures demonstrating the control of scarlet fever, posture, mechanics of appendicitis, and the prevention and treatment of burns.

TEXAS

Fort Worth Osteopathic Association

At a meeting of the association at Fort Worth the following officers were elected: President, L. M. McAnally; vice president, L. A. Bernhardi; secretary-treasurer, H. E. Kenney.

North Texas District Association of Osteopathic Physicians and Surgeons

The annual convention of the association was held on September 29 at Wichita Falls. The principal speaker was Q. W. Wilson, Wichita, Kansas, and his subject, "Diagnosis and Treatment of Gland Diseases in Children and Adults." He was assisted by C. A. Tedrick, also of Wichita, who showed x-ray pictures and lantern slides of clinic cases under his care. Other talks were given by Dar Daily, Weatherford, "Arthritis"; Mary Lou Logan, Dallas, "Diseases of Children"; L. N. McAnally, Fort Worth, on American Legion's program of rehabilitation; Phil R. Russell, Fort Worth, who discussed the functions of the state board of medical examiners.

Officers were elected as follows: President, H. W. Locke, Gainsville; vice president, H. E. Roberts, Denton; secretary-treasurer, L. N. McAnally, Fort Worth.

Southeast Texas Osteopathic Association

A meeting of the association was held on September 9 at Port Arthur. The scientific program included the following addresses: "The Injection of Whole Blood in the Treatment of Acute Diseases," J. R. Alexander, Houston; "Report on the A.O.A. Convention," Chester Farquharson, Houston; "Cancer Treatment," F. A. Norris, Houston; "Low Blood Pressure and Its Osteopathic Management," B. L. Livengood, Bay City; "Osteopathy and Obstetrics," E. E. Larkins, Galveston; "Foot Correction," Reginald Platt, Jr., Houston; "Injection of Hernia," D. W. Davis, Beaumont.

Twin City Osteopathic Association

A meeting of the association was held on September 8 at Texarkana, Ark. Ross McKinney, Texarkana, Tex., spoke on "Bromide Intoxication." J. Faulkner, Texarkana, Tex., gave a report of the annual convention at Wichita, Kans.

The October meeting was held on the 13th at Texarkana, Ark. R. M. Mitchell, Texarkana, Tex., was the principal speaker and his subject, "A Pioneer Osteopath."

VERMONT

State Association

The twenty-ninth annual convention of the Vermont Osteopathic Association was held on October 3 and 4 at Randolph. The scientific program follows: "Technic," round table under direction of Dale Atwood, St. Johnsbury; "Short Lower Extremities," A. E. Wilkinson, Montreal, Canada; "Disorders of the Foot," Frank C. Nelson, Malden, Mass.; "Osteopathic Experiences and Technic," Charles Hazzard, New York City; "Foot Technic," Frank C. Nelson, Malden, Mass.; "Repair of Cell and Vessel Wall," Charles Hazzard, New York City; "Office Management," E. O. Millay, Montreal, Canada.

Officers were elected as follows: President, H. K. Sherburne, Jr., Rutland; vice president, R. Kenneth Dunn, Brattleboro; secretary-treasurer, Kathleen A. Hunt, Middlebury. Committee chairmen have been chosen as follows: Professional education, Guy Loudon, Burlington; professional development, John Blackmer, Randolph; hospitals, R. L. Martin, Montpelier; industrial and institutional service, George Eddy, Burlington; clinics, Howard Slocum, Middlebury; public health and education, J. Harry Spencer, St. Albans; legislation, Howard Drew, Barre; publicity, Dale Atwood, St. Johnsbury; convention program, Arthur S. Bean, Morrisville; student recruiting, R. Kenneth Dunn, Brattleboro; statistics, L. D. Martin, Barre.

VIRGINIA

State Association

The annual convention of the Virginia Osteopathic Association was held on September 22 at Raleigh, N. C., in connection with the annual convention of the Middle Atlantic States Osteopathic Association. Officers were elected as follows: President, Andre Aillaud, Charlottesville; vice president, Margaret Bowen, Richmond; secretary-treasurer, Vincent H. Ober, Norfolk.

WASHINGTON

King County Osteopathic Association, Inc.

(See Southwest Washington District Osteopathic Association)

Southwest Washington District Osteopathic Association

A meeting of this association with the King County Osteopathic Association, Inc., was held on September 15 at Tacoma. The guest speakers were Lillian M. Whiting and Barbara MacKinnon, members of the faculty of the College of Osteopathic Physicians and Surgeons. Other talks were given by J. Thomas Atkinson, Vancouver; Ralph G. Sharninghouse, Bellingham; Herbert F. Morse, Wenatchee; William E. Waldo and A. B. Ford, Seattle; D. D. Clark, Olympia; Norman H. Dorn and H. V. Hoover, both of Tacoma.

WEST VIRGINIA

Monongahela Valley Osteopathic Society

A meeting of the society was held on October 11 at Clarksburg. The principal speaker was L. A. Stark, Clarksburg, and his subject, "The Relationship Between Dental Focal Injection and Systemic Disease."

Officers were elected as follows: President, George O. Smith, Morgantown; vice president, M. R. Cronen, Morgantown; and secretary-treasurer, T. A. Treftz, Weston.

The November meeting is to be held on the 15th at Weston, W. Va.

Ohio Valley Osteopathic Association

Kenneth S. Fleming, East Liverpool, Ohio, reports that the September meeting of the association was held on the 27th at Steubenville, Ohio. A round table discussion of osteopathic care under the rulings of the F.E.R.A. was held.

WISCONSIN

Madison District Osteopathic Association

A meeting of the association was held on October 10 at Watertown. The program as published in advance was as follows: "Reports of the A.O.A. Convention" by W. B. Truax and E. J. Elton, both of Milwaukee; "Osteopathic Obstetrics in Over 700 Cases," F. R. Thornton, La Crosse; "Sacro-iliac Diagnosis and Technic Application," Martin C. Beilke, Chicago; "How Can the W. O. A. Best Serve the A.O.A.," V. W. Purdy, Milwaukee; "Diseases of the Nasopharynx," L. B. Harned, Madison; "Our Thirty-Seventh Annual Convention," R. W. Parrish, Manitowoc.

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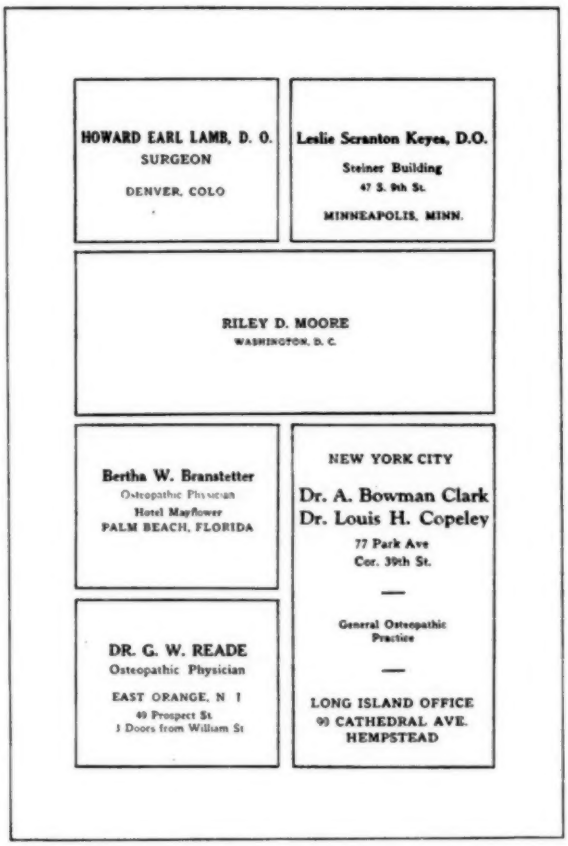

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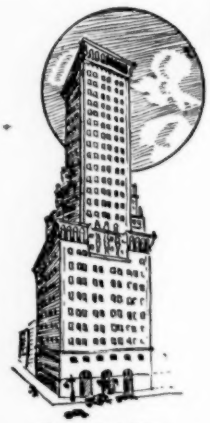

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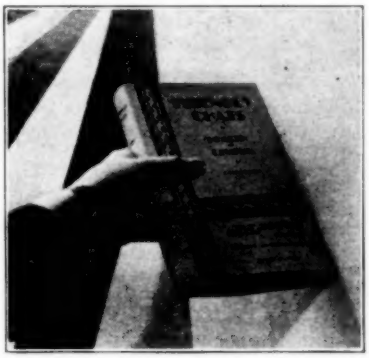

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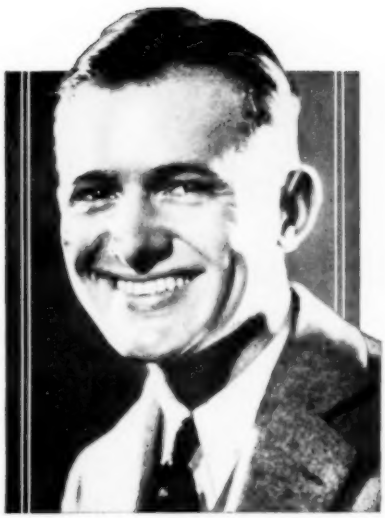

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